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Child Pornography: From Commercial Collapse to Computer-Mediated Consumption

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Child Pornography: From Commercial Collapse to Computer-Mediated Consumption¹

The primary purpose of this study is to document the complex transformation that child pornography underwent in the second half of the twentieth century. In the late Fifties and early Sixties, child pornography appears to have been completely peripheral to the emerging trade in pornographic material.² There was a brief period lasting just over a decade, with its peak in the Seventies, during which child pornography magazines were commercially distributed through sex shops or by mail order. Two caveats, however, must be borne in mind. First, even during this peak activity, the trade in child pornography magazines was always minuscule compared to the availability and readership of pornographic magazines as a whole. Second, the small commercial trade operated in a shrinking window that shifted from one national jurisdiction to the next. Magazines featuring boys, for example, appear to have been produced in the United States from 1966-1970 but after that publication ceases almost entirely in the United States, and activity shifts to Europe (Schuijjer & Rossen 1992).

Legislative changes were a key factor in the initial opening up and subsequent shutting down of the child pornography trade. In Denmark, for example, anti-pornography laws were repealed in 1967 (for writings) and 1969 (for images). Sweden repealed their anti-pornography

¹ Copyright 2005, Gareth Sansom. The opinions expressed in this paper are those of the author. Although begun in 2001, this study is still in draft form. Comments are welcome. Please send to gareth@schizoculture.com

² We should remind ourselves that in Canada and the United States as well as in much of Europe, the commercial distribution of pornography as a whole only began to become widespread in the late Fifties and early Sixties. Certainly from the beginning of the century in North America, adult pornographic material in the form of “stag films” had been produced and circulated for non-theatrical distribution. Exploitation cinema (one branch of which was to become the “adult entertainment industry” of the late Sixties and early Seventies), had established distribution circuits in some cinemas and later drive-ins from at least the 1930s. Exploitation films containing partial adult nudity became an established genre in the mid-Fifties but did not risk full frontal nudity until the mid-Sixties. With respect to other media, the late Forties and early Fifties witnessed a growing but largely underground trade in 4”x5” black-and-white pornographic photographs (although these had been produced in limited quantities from the late nineteenth century onwards). So-called men’s magazines containing partial nudity began to break into the publishing mainstream in the early Fifties (the most enduring example being *Playboy* launched in 1953). Due to a variety of social and economic factors, the post-World War II period seems to have enabled the formation of recognizable sexual sub-cultures (outside strictly private pursuits or the world of prostitution and bordellos). For example, the S&M and fetish sub-culture of the Fifties communicated through mail-order magazines and exchanged black-and-white photographs. Much of this material skirted the border of legality and was quite cautious in what could be depicted even given their fairly restricted circulation. For example, Irving Klaw’s New York mail-order business in black-and-white bondage photographs (circa 1947-1957) which came under pressure by Senator Estes Kefauver’s Senate subcommittee investigating the alleged link between pornography and juvenile delinquency in 1955. Also from this period were magazines such as *Bizarre* (1946-1959), distributed through the mail by John Willie. In contrast to the products of these other sexual sub-cultures, child pornography prior to the late Sixties was almost certainly clandestine and, given its marginal existence, was a fringe activity; its publications were largely the pursuit of amateurs.

provisions in 1971. Along with the consequent growing availability of pornographic material in general, child pornography magazines began to be produced and circulated. Also in the early Seventies magazines containing child pornography began to appear in Germany and, in the 1973-1979 period, the Netherlands became a source for publications centring on girls. These shifting windows, however, started to close by the end of the Seventies due to court cases in various jurisdictions and the introduction of new legislation.

By the Eighties, the small commercial trade in child pornography was dead and what activity remained became illegal and covert. During the 1980s, the illicit production and circulation of child pornography was primarily through photographs, magazines, 8mm movies and videocassettes. There are some indicators that enable us to determine that the scale of this activity was very small. This study will explore how an initial baseline can be constructed, so that we can base our analysis on a reasonable statistical measure of the prevalence of child pornography. With the collapse of the commercial distribution of child pornography in traditional media, paedophiles began to explore new digital media. This study will trace this transformation by framing the problem of how computers and computer networks have been used in the production, reproduction, distribution and consumption of child pornography.³ In part this will involve a consideration of the availability, cost and adoption rates of computer technology. It will then require a consideration of the broad context of how some pornography in the late Eighties and early Nineties has been disseminated over computer networks - including computer bulletin board systems (BBSs) and the Internet. Preliminary observations on the extent of computer-mediated child pornography can then be assessed.

There is no doubt that child pornography exists in almost all forms of media, whether traditional (published texts, books, magazines, photographs, videocassettes, etc.) or computer-based (CD-ROM, BBSs, Usenet newsgroups, Internet Relay Chat, etc.). There is a perception, often echoed in the press, that child pornography is increasingly available and that the proverbial floodgates have been forced open. Today the culprit is the Internet; fifteen years ago it was the VCR. Any professional providing empirical data in the service of public policy formulation in this area, however, is quickly humbled. Methodological rigour, not timidity, warrants avoidance of the rhetorical convictions enjoyed by media pundits. Most researchers acknowledge a common starting point: that there is a high degree of uncertainty regarding the amount of child pornography available in their respective countries, and Canada is no exception. Whether or not there has been an increase in production or distribution can only be ascertained if there is a baseline against which to measure and valid indicators are available as guideposts.

³My intent is not to provide an introduction to the Internet or computer networks as vehicles for the dissemination of a range of illegal content. That was the aim of my earlier study, Illegal and Offensive Content on the Information Highway: A Background Paper (Ottawa: Industry Canada, June 1995), and I will generally refrain from repeating information already dealt with there.

A. Child Pornography: The Marginal and Short-Lived Commercial Industry

In Western society since the Renaissance, the amount of pornography available and the potential audience for such pornography has been directly related to the means and costs of mechanical reproduction (see Appendix One) and, in the last few decades, to the means and costs of digital reproduction. I do not wish to belabor the obvious, however, the first observation that must be made is that child pornography represents a very small proportion of the total amount of heterosexual and homosexual pornography available at any given time – whether legal or illegal.

Based on my research into pornography as a whole, particularly that of Western societies in the twentieth century, child pornography has typically been a marginal pursuit constructed by and for an audience that is smaller than that for other broad paraphilic categories such as fetishistic pornography, bondage pornography or sadomasochistic pornography (although it does sometimes overlap with these). Empirical research of the past three decades corroborates that this is the first constraint on the potential scope of the problem.

Commercially Distributed Magazines: Shifting Production and Shrinking Sources

Two empirical studies (with overlapping samples), one conducted in the United States and the other in the Netherlands, strongly suggest that the total number of child pornography magazines produced and distributed in Europe and North America during the decade or so of commercial distribution appears to have been in the neighbourhood of one thousand issues. The Dutch study analyzed approximately 800 child pornography magazines distributed in Europe through sex shops over a period lasting roughly two decades (Schuijjer & Rossen 1992). The sample is believed to be exhaustive for all child pornography magazines published in Europe and distributed through sex shops but it does not capture all American publications from this period.⁴

Using a somewhat different methodology, the American study surveyed about 1100 child pornography magazines that had been published in the decade of peak commercial activity (Stanley 1989). These numbers confirm that magazines containing child pornography, particularly in the period before countries introduced legislation making their publishing and distribution illegal, represented only a very small fraction of the legitimate and illicit pornographic magazines in circulation.

In one of the two examples that goes beyond anecdotal accounts, Jan Schuijjer and Benjamin Rossen provided empirical evidence regarding European magazines containing child pornography dating from the late 1950s through to 1990.⁵ The authors report:

⁴ With respect to child pornography magazines centring on boys, the sample contains more than 50 American magazines from the period before 1971. For the child pornography magazines devoted to girls, however, the authors state: “This is a more or less complete count of the European child pornography, but that cannot be said for the American material. Only incidental American magazines could be obtained, although there is evidence that the American production must have been large. For that reason, the tables show the production in the U.S.A. separately...” (Schuijjer & Rossen 1992).

⁵ Schuijjer and Rossen state: “The basis of our study is Dr. E. Braches’ documentation of child pornography which included all the European photo-magazines that were sold (almost) exclusively in sex shops between the late 1950s and 1984. The additional data for the period after 1984 are based on interviews, visits to sex shops and access to some private collections which we were able to analyze. Each issue was counted as one unit, so that a series that

In total there were 508 issues depicting boys and 288 issues depicting girls. The boy magazines appeared mostly between 1968 and 1981, a period of 14 years, the girl magazines only appeared in 1972 and vanished in 1980, a period of 9 years. The average number of issues per year over these periods was 28.1 issues of boy magazines and 35.2 issues of girl magazines. (Schuijjer & Rossen 1992)

As one can see from Table 1 and Table 2, publication shifted from one country to next. There also seems to be a differentiation based on whether the magazine depicted boys or girls. With respect to child pornography magazines that featured boys, the authors state:

The high points in production shifted from one country to the next during the period that child pornography was available. America (USA) was the first significant producer running from 1968 to 1970. The German (D) production occurred mainly during 1970 to 1974. The Danish (DK) took over; 1970 to 1981. After the collapse of American production, the English (GB) appeared, remaining relatively small, but reaching a peak in the years 1973 to 1975. By 1977 the American and English production had vanished. In comparison with international production, Sweden (S), between 1971 and 1979, and the Netherlands (NL), between 1973 to 1976 and again between 1983 and 1987, were very small contributors. (Schuijjer & Rossen 1992)

As is evident from the frequency counts, there were almost twice as many magazines depicting boys than those containing depictions of girls. Moreover, the child pornography magazines featuring girls seem to have a different national origin:

The world production of girl magazines was dominated by Denmark between 1972 and 1978, and the Netherlands between 1973 and 1980. In the Danish material, the country of origin is printed in the magazines. In the publications from the Netherlands, the text is predominantly Dutch and an address in the Netherlands is given for subscription. The production of other countries was insignificant compared to that of the Netherlands and Denmark.

came out in five issues is counted as five magazines. Pirate copies of European material which was reprinted under a new cover are counted as separate magazines, although it could be argued that this introduces double counting. We have not included magazines for which the cover and title suggested child pornography but the contents clearly depicted young adults. Nudist magazines, which are usually sold by subscription to enthusiasts and are not generally sold in sex shops, were not included either. We have used a generous criterion to determine inclusion, so that magazines in which the majority of the pictures are not of children were included. We have included all the magazines that included naked children even when the photographs did not depict sexual demeanour at all. By using a broad definition we have sought to prevent the study from excluding relevant material that was sold predominantly in sex shops.

“The data for this survey are based on documentation that was set up in 1972, and maintained until 1984, so that the month at which each magazine was encountered for the first time in Amsterdam was also recorded. This was not possible for the English magazines which, according to Braches, could nevertheless be dated by other means.” (Schuijjer & Rossen 1992).

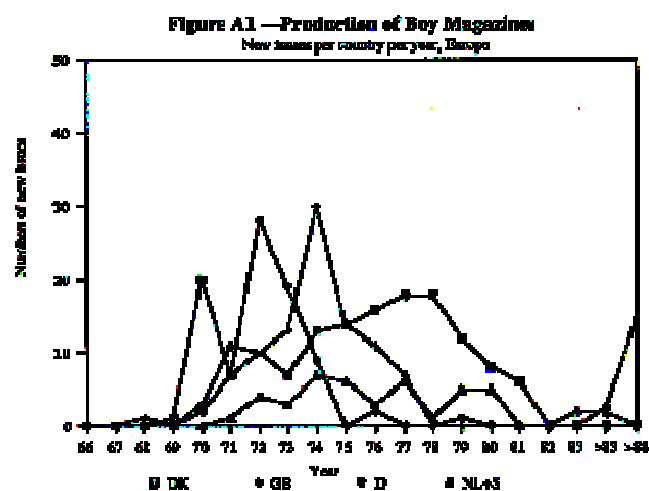
Table 1											
Boy Magazines: Number of New Titles Issued up to and Including 1990											
Country ?	<'66	1966	1967	1968	1969	1970	1971	1972	1973	1974	
D	3	2	-	-	-	-	2	7	28	19	9
DK	-	-	-	-	-	1	20	7	10	7	13
GB	15	1	-	-	1	-	3	11	10	13	30
USA	9	11	2	1	11	14	6	-	-	-	1
NL	-	-	-	-	-	-	-	-	-	1	2
S	-	-	-	-	-	-	-	1	4	2	5
TOTAL	27	14	2	1	12	15	31	26	52	42	60
Europe	18	3	-	-	1	1	25	26	52	42	59

Country	1975	1976	1977	1978	1979	1980	1981	1982	1983	83-90	Total
D	-	2	-	-	1	-	-	-	-	54	127
DK	14	16	18	18	12	8	6	-	-	-	150
GB	14	11	7	-	-	-	-	-	-	-	116
USA	1	2	-	-	-	-	-	-	1	-	59
NL	3	1	-	-	-	5	-	-	2	7	21
S	3	2	6	1	5	-	-	-	-	-	29
TOTAL	35	34	31	19	18	13	6	-	3	61	502
Europe	34	32	31	9	18	13	6	-	2	61	443

Origin unknown:

6

Source: Schuijjer and Rossen, 1992



Source: Schuijjer and Rossen, 1992

Table 2

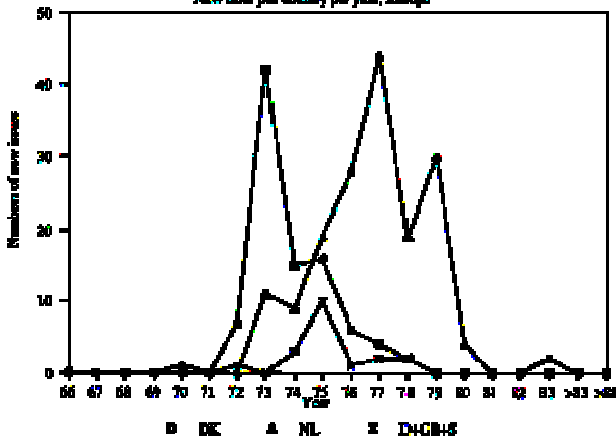
Girl Magazines: Number of New Titles Issued up to and Including 1990

Country ?	<'66	1966	1967	1968	1969	1970	1971	1972	1973	1974
D	-	-	-	-	-	-	-	-	-	-
DK	-	-	-	-	-	-	-	7	42	15
GB	-	-	-	-	-	-	-	1	-	-
USA	-	-	-	-	-	-	-	-	1	-
NL	4	-	-	-	-	1	-	-	11	9
S	-	-	-	-	-	-	-	-	-	3
<hr/>										
TOTAL	-	-	-	-	-	1	-	8	54	27
Europe	-	-	-	-	-	-	-	8	53	27

Country	1975	1976	1977	1978	1979	1980	1981	1982	1983	83-90	Total
D	5	-	1	2	-	-	-	-	-	-	8
DK	16	6	4	2	-	-	-	-	-	-	92
GB	-	-	-	-	-	-	-	-	-	-	1
USA	-	3	2	-	-	-	-	-	-	-	6
NL	19	28	44	19	30	4	-	-	2	-	171
S	5	1	1	-	-	-	-	-	-	-	10
<hr/>											
TOTAL	45	38	52	23	30	4	-	-	2	-	288
Europe	45	35	50	23	30	4	-	-	2	-	282

Source: Schuijjer and Rossen, 1992

Figure A2 — Production of Girl Magazines
New titles per country per year, Europe



Source: Schuijjer and Rossen, 1992

Regarding figure: The years 1984-1987 (">'83") and 1989-1990 (">'88") have been taken together and the graphs display annual averages for these years: the period when the relevant publications came out is known to us, but not the exact years of publication of each individual issue.

The second study to provide empirical evidence based on a comprehensive sample of child pornography magazines was reported by Lawrence A. Stanley, who states:

The approximate total number of commercial child pornography magazines produced in the United States and Europe from the late 1960 onwards consist of: less than 550 magazines depicting children engaged in sexual activity with other children or adults (with slightly more magazines depicting boys than girls); 460 magazines depicting boys in naturist or erotic nude settings, including at least one photograph which would qualify as “lascivious exhibition of the genitals”; and less than 100 magazines depicting girls in naturist and erotic nude settings, including at least one photograph which would qualify as “lascivious exhibition of the genitals”. (Stanley 1989: 309-310)

Although Stanley’s sample is slightly larger than that of Schuijjer and Rossen, it also indicates that there were more child pornography magazines depicting boys than girls. Stanley also comments on the marginal character of the trade in child pornography:

Production of child pornography magazines was always sporadic, largely due to the fact that the market for child pornography was relatively insignificant from a commercial point of view, and that the production of all obscene materials, involving adults or children, was, and continues to be, illegal in the United States and in most European countries. Accordingly, the supply of child pornography photographs and films, including the home-made variety, was extremely limited. Several magazines made continuous appeals to their readers to contribute materials; the repetition of photographs from magazine to magazine also indicates that child pornography was a scarce item everywhere. Often, monthly magazines produced only a few issues over the course of several years. They were replaced by other magazines, which reprinted many of the same photographs. (Stanley 1989: 310)

Stanley confirms that even when child pornography was not completely prohibited it never found a large audience, nor was it profitable:

Child pornography never amounted to a lucrative business in the United States or elsewhere. Child pornography was cheaply produced for a very limited market, selling an average of 5,000 to 10,000 issues worldwide. There is no commercial production of magazines or videotapes depicting child pornography in the United States or in Europe today. It does continue to be created much as it had been prior to 1970: it is made by a few individuals, on an amateur basis, in small quantities (most often, just a handful of pictures), primarily for the purpose of private viewing. Occasionally, such pictures are traded or given to others, but then only to close friends or acquaintances. (Stanley 1989: 310-311)

The evidence for the peak in production is further supported by subsequent investigators who document that much of the child pornography in circulation in the Nineties was actually twenty

years old.⁶ See for example, the *Testimony of D. Douglas Rehman before the United States Congress* (Oct. 7, 1997):

One common trait of pedophiles is their collection of child pornography. They will amass large collections but rarely, if ever, dispose of the child pornography. Until very recently, child pornography was extremely difficult to obtain with the primary source being European magazines and 8mm films that were published during the 1970's and 1980's. There were a limited number of these magazines in circulation and pedophiles, while wanting more child pornography, would not want to give up what they already had for new material. This made it virtually impossible for the trading of child pornography.

Rehman's comments suggest there was a restricted supply of child pornography and that its production and distribution was largely clandestine. Other reports tend to be consistent with Rehman's assessment despite persistent media reports to the contrary. We can conclude that there was a period centring on the Seventies when child pornography was more available than in the decades before. Most accurately, it would seem that following court cases regarding censorship in many Western countries during the late Fifties through the Sixties, a small window opened, during which production peaked. As this paper documents, there is substantial empirical evidence indicating that by the late 1970s and early 1980s there was almost no child pornography commercially produced or distributed in Canada and the United States; a situation mirrored throughout Europe.

Referring to initiatives such as the passing of strict laws against child pornography in 1977, the United Kingdom's *Protection of Children Act* in 1978, and child pornography legislation in Denmark and Sweden in 1980, Healy writes:

"The late 1970's and early 80's brought increased governmental regulation, first in the United States and later in Europe. As a result, commercial distribution is no longer a major means of circulating such material. *The majority of child pornography disseminated internationally is, in fact, exchanged between pedophiles and child molesters without any commercial motive...*" (Healy 1997, emphasis added)

In 1986, the United States Senate Permanent Subcommittee on Investigations of the Committee on Governmental Affairs produced a report entitled, Child Pornography and Pedophilia, which addressed the question of whether there was any link between organized crime and child pornography:

⁶ This is supported in the research findings of Rachel O'Connell and Professor Max Taylor at University College Cork (Ireland). Law enforcement investigators also reach the same conclusion; for example, Rehman states: "It is ironic that in 1994, some of the first computer child pornography that I seized during my undercover work in Orlando was actually created in Orlando some two decades earlier. After the photographs were made in Orlando, the pedophile took the film to Europe where he had it developed and sold it for publication in various child pornography magazines. In a further irony, the Special Agent in Charge of the Orlando FDLE office at the time that I seized it was the case agent in the investigation into its manufacture two decades earlier." (Rehman 1997)

Because of the Subcommittee's historic interest in the activities of organized crime, an effort was made to obtain any information that might show a direct link between organized crime and the distribution of child pornography in the United States. The Subcommittee interviewed former child pornography distributors, federal informants, pedophiles, prosecutors and law enforcement officials from the United States, Canada and Europe. No one produced definitive evidence that traditional organized crime groups, such as La Cosa Nostra, have any appreciable influence on the production or distribution of true pedophile-oriented child pornography. Nor was evidence found of any widespread involvement, much less control, of child pornography distribution by other ethnic crime organizations or criminal groups, such as motorcycle gangs.

There is evidence that La Cosa Nostra crime families are involved in the production and distribution of commercial adult pornography. A small portion of this market may include underaged models, usually 16 or 17, and some material appears to show legal-aged models who are dressed and made up to look like minors. While any sexually explicit material involving persons of this age is usually harmful, if not illegal, for purposes of this report child pornography refers to material involving children under 13.

After extensive inquiries, the Subcommittee has concluded that the distribution of child pornography in the United States is largely carried out by individual pedophiles, who produce this material and trade it among themselves or order it through the mail from other countries. In the few instances when police have uncovered commercial child pornography operations, they paled in comparison to the sophistication and profits of adult pornography distributors, and were not controlled by traditional organized crime. One such organization was run by Cathy Wilson, who at the time of her arrest in California in 1983 was believed to control about 80 percent of the commercial child pornography trade in the United States. Wilson told Subcommittee investigators in August 1984 that "the Mafia" had not been involved in her operation or that of any other child pornographer with whom she dealt during the 1970s and early 1980s. Richard Trolio, once a business partner of Wilson's who later became a federal informant against her, told the Subcommittee he agreed with Wilson's assessment.

Economics probably plays a major part in organized crime's lack of interest in child pornography. The adult sex industry (magazines, videotapes, X-rated movie theaters, nightclubs, massage parlors, "dial-a-porn" and "escort" services, etc.) operated legally in much of the country and grosses several billion dollars annually. Conversely, the commercial child pornography industry has declined substantially in recent years.

Perhaps equally discouraging to organized crime is the aggressive enforcement of the 1984 federal child pornography statutes, which carry 10-year prison terms for production, importation or distribution of the material. In comparison, violations involving adult pornography are often treated as misdemeanor obscenity cases, when they are prosecuted at all. (United States Senate 1986: 4-5)

Seizures as an Empirical Indicator: Canada

In Canada, arguably the first reliable baseline for assessing child pornography can be found in the Badgley Report, or as it is officially known, the *Report of the Committee on Sexual Offences Against Children and Youth*, submitted in August 1984. Indicators of the proportion of child pornography to the broader genre of pornography as a whole help to place the phenomenon in perspective. In this regard, the Badgley Report's survey of seizures of obscene and pornographic material by the R.C.M.P. and Revenue Canada's Customs and Excise is worthy of consideration: "Of 26,357 seizures between 1979 and 1981, a total of 330, or 1.3 percent, were adjudged to be child pornographic matter. On the basis of known materials seized, it is evident that child pornography constitutes a tiny proportion of all pornography entering Canada unlawfully" (Badgley 1984: 1170). The focus here is on proportionality, not necessarily on any postulate of the total amount. It is to be expected that detection mechanisms are not capable of seizing all child pornography entering the country, however, the Report concluded: "While it seems likely that the total amount of child pornography entering the country may be far greater than that seized, there is no massive importation of these materials" (Badgley 1984: 1175). One must concur with the Report's emphasis that "*any* child pornography entering the country is cause for concern, but it is misleading to suggest that child pornography is flooding into Canada, or has become a readily available retail commodity" (Badgley 1984: 1175).

In addition to importation, the Badgley Report assessed the commercial production and distribution of child pornography:

On the evidence available, the Committee concludes that there is virtually no commercial production of child pornography in Canada, and that the detected ventures attempted in this regard have been small, without exception, unsuccessful, and relatively promptly identified by enforcement services. The findings indicate that with respect to the control of the commercial production of child pornography in Canada, the various enforcement agencies are effectively and efficiently controlling the problem at the present time. These services, however, will likely face a situation of different proportions in the future as audio-visual reproduction equipment becomes more readily available and its use facilitates the easy and cheap reproduction of child pornography. (Badgley 1984: 1184)

As with commercial production, the Committee learned that the commercial distribution of child pornography within Canada is virtually non-existent. None of the wholesalers belonging to the Periodical Distributors of Canada has ever been detected smuggling, importing, distributing or selling child pornography anywhere in Canada by any enforcement agency. On the basis of the information provided by enforcement agencies and voluntary associations, its review of court cases and the findings of the national surveys conducted, the Committee learned of only two confirmed instances involving the commercial distribution of child pornography... (Badgley 1984: 1184-1185)

Based on the evidence available, the Committee stated that: "The findings reveal the existence of an informal and fragmented system of private production of child pornography, one

primarily undertaken to serve the sexual gratification of persons taking these pictures” (Badgley 1984: 1179). The apportionment of scale is also worthy of reflection:

In addition to importation, the Committee identified that the second and likely less extensive source of child pornography in Canada was the production for private use of these materials. On the basis of the findings of several of the national surveys and case studies assembled from police records and sentencing decisions, it appears that many of these reported instances involved the taking of individual photographs, apparently for personal use rather than commercial purposes. The number of photographs seized in cases known to the police ranged from a few to almost 12,000. (Badgley 1984: 1197-1198)

Type of Child Pornography	Number of Enforcement Actions	Percent
Books	153	29
Magazines	101	19
Videos	155	30
Other formats (booklets, comic books, 8mm films, etc.)	111	21
Total	520	100

Table 3: Enforcement Actions by Canada Customs of Prohibited Material Labelled as Child Pornography, Canada, January 1986 to November 1990 (Source Moyer 1992: 6)

One will recall that the Badgley Report stated that: “Of 26,357 seizures between 1979 and 1981, a total of 330, or 1.3 percent, were adjudged to be child pornographic matter” (Badgley 1984: 1170). The pattern seems to be consistent as evidenced by subsequent research. Summarizing on enforcement actions by Canada Customs of prohibited material labelled as child pornography over a later period of almost four years (January 1986 to November 1990), Moyer reported: “During this time period, there were 38,680 enforcement actions involving prohibited material in Canada (most of this material is “pornographic”, not seditious or treasonable in nature). Child pornography made up 1.3 per cent of this total (i.e., 520/38,680)” (Moyer 1992: 6).

With regard to establishing a baseline for the production and distribution of child pornography in traditional media, the Badgley Report contains some important conclusions. Most notably, it is evident that the proportion of the population that produces, collects, or disseminates child pornography is very small and that the volume of child pornography itself is correspondingly small. Indeed, this target group is significantly tinier than the set of those who produce, collect, or disseminate other forms of pornography, including those attracted to genres of pornography that contravene obscenity provisions. In addition, the volume of pornography as a whole (including obscene material) will substantially exceed the volume of child pornography.

Consequently, if one can obtain reliable indicators of pornography as a whole (or correspondingly indices of the population that traffics in pornography broadly defined), then one can assume with a high degree of confidence that the proportion of child pornography (or the corresponding measures regarding the paedophiles who traffic in child pornography) will be proportionality smaller, and significantly so. In this regard empirical findings in the one realm can be used to establish the upper bounds of a data set and expected ranges in the other realm. The actual proportion of child pornography depends very much on the nature and size of the sample – ranging from a high of 7% in one study of adult bulletin boards (Rimm 1995) to between 1% and 2% or less in most other studies – findings which are consistent with recent Customs Canada seizure data and the historical evidence presented in the Badgley Report. As I will demonstrate on the basis of samples and studies of both computer-mediated and traditional child pornography, empirical evidence generally suggests that the proportion of child pornography is less than 2% of pornography as a whole.⁷

The above findings also find corroboration in empirical studies in the United States. For example, in the late Eighties, Dietz and Sears surveyed 5132 books, magazines and films from adult stores in four American cities. The authors state: “No child pornography was observed on display in any shop studied. Indeed, we are aware of no instance of over-the-counter distribution of child pornography since the enactment of the Child Protection Act of 1984, which was enacted in response to public concerns and in the wake of the Supreme Court decision in *New York v. Ferber*, 458 U.S. 747 (1982). In *Ferber*, the Court held that certain sexually explicit depictions of children below a specified age are not protected by the first amendment” (Dietz & Sears 1988: footnote 46, 28). The researchers did discover a small proportion of “pseudochild pornography”:

Depictions of presumably adult women wearing childlike clothing or photographed amid childlike props or settings, known as pseudochild pornography, appeared in 3.1% of magazines on 1.5% of films. These, like pictures of presumably adult women with shaved pubes (1.9% of magazines and 1.0% of films), are in part an attempt to fill the demand for child pornography (already successfully suppressed form over-the-counter commercial distribution at the time of this study). Despite the use of pigtails, bobby socks, and teddy bears, the women in these pictures most often resemble adolescents rather than prepubescent children and therefore correspond more to the interest of hebephiles than of pedophiles. The text of books is not regulated by the federal child pornography law, however, and descriptions of sexual activity between adults and children are plentiful in book form. Twelve of the thirteen outlets studied sold paperback books featuring themes of child sexual abuse in incest. These books typically use drawings rather than photographs on their covers and correspond more directly to the interests of paedophiles, this covers of 9.4% of books featured childlike clothing, props, or settings. (Dietz & Sears 1988: 28)

Other studies also seem to indicate that in the 1980s there was virtually no commercial

⁷ Although I believe that research in the service of policy formulation should avoid the rhetoric of moral panic, my attempt to discern demonstrably justifiable indicators should in no way be interpreted as a minimization of the seriousness of the harm associated with child pornography

production or distribution of child pornography in the United States. For example, Charles Winick (1985) conducted a content analysis of 430 sexually explicit magazines for sale at an adult bookstore in New York's Times Square area. Characterizing the subjects of the photographs in the magazines, Winick states: "Over four fifths appeared to be in their twenties. Only 1% appeared to be over 40..." (Winick 1985: 208). Of the 22 content categories Winick proposes only two could have any possibility of containing hebephile or paedophile content: category #10 "Young Women" and category #18 "Nudism". With respect to category #10, which accounts for 1.9% of the proportion of total pages, Winick notes "Content primarily concerned with relatively young women, mostly nude. Practically all such magazines carried a legend indicating that the models were over 18 years old" (Winick 1985: 208). The other possibility was category #18, which accounted for 1% of the total proportion of pages, described as "Content presenting nude persons in naturalistic settings". It would appear that some amount, clearly a small fraction of 2.9% of the pages in the 430 sexually explicit magazines, might have been classifiable as containing some representations which could include some hebephile images (category #10) or some hebephile and paedophile images (category #18). Even this minuscule percentage, however, is only a possibility as Winick does not explicitly state that any of the images actually did constitute hebephile- or paedophile-oriented content.

In terms of establishing our set of baselines, it is worth noting that although the Badgley Report was delivered in August 1984, it contains no significant discussion of computers or computer networks as vehicles for the production and dissemination of pornography or child pornography. Given that the data sets compiled for the Committee covered up to the years 1981 or 1982 (depending on the survey), the absence of any reference to computer-mediated pornography is, as I shall substantiate later, quite understandable.

Beyond the Badgley Report, is there reliable time series data for child pornography in Canada covering the past fifteen years? More specifically, is there evidence to support the Badgley Report's projection that audio-visual material arising from the uptake of video-cassette recorder (VCR) and consumer video cameras constituted a significant variable in the increased production and distribution of child pornography in the decade beginning in 1985? As we have seen, the importation of child pornography particularly in traditional media (books, magazines, photographs) according to Customs Canada seizure evidence covering January 1986 to November 1990 (Moyer 1992: 6) continued to maintain the same proportion (1.3% of prohibited material) found for the earlier period between 1979 and 1981 documented in the Badgley Report. Has this pattern from the Eighties remained stable through the Nineties? Finally, has the amount of child pornography predicated on traditional media actually declined as a result of technological migration toward other formats, beginning with video-cassettes and then moving on to computer-based formats such as CD-ROM or on-line distribution?

In what follows, I will begin to assess the evidence for the prevalence of computer-mediated child pornography. I will attempt to provide some reliable chronological markers, which will assist other researchers in establishing empirical baselines. I would caution, however, against incomplete research hypotheses. One could be fairly confident in postulating that at some point post-1985 one would expect an increase in computer-mediated production and distribution

of child pornography. This would follow simply from the appearance in Canadian homes of personal computers with the ability to reproduce photographic images. Nonetheless, one would be remiss if one did not also address the issue of the migration from one medium to another to determine whether there is an overall increase in child pornography or a relatively steady-state⁸ with a shift in distribution patterns and/or visibility. With respect to the latter, public access to open sources of child pornography, such as Usenet newsgroups, probably make the trading and collecting of child pornography more visible activities than at the time of the Badgley Report. On its own this does not indicate an increase in the volume in or the demand for child pornography. Further study would also be required to determine whether on the whole the Internet facilitates detection measures and benefits or diminishes law enforcement effectiveness.

⁸ There may be significant ramifications depending on whether a steady-state scenario is valid or not. Most significantly are the implications for our model of paedophilia. For example, the more the evidence tends toward a steady-state, the greater may be the proportionality of evidence towards predisposition (which admittedly may be short hand for a multi-modal syndrome that includes environmental factors) versus predominantly learned behaviour or the presence (or absence) of some substantial dimension of moral choice.

B. The Technological Context for Computer-Mediated Child Pornography

Technological factors such as the invention and marketing of home computers, modems, and colour graphics cards constitute the preconditions for computer-mediated child pornography. Moreover, the dates marking the emergence of specific computer networks or network-based services definitively establish boundaries when certain paedophile practices can even be assumed to exist. Finally, penetration rates for computer ownership and access to network services constrain the likely scope of the problem.

The personal computer and the Internet are only the most recent technologies to be adapted to child pornography. Like pornography in general, child pornography is intimately entwined with technological innovation. In large measure this is because the dissemination of pornography requires (mechanical) reproduction -- availability, cost, and ease of use become technological considerations for those engaging in distribution (see Appendix One). Additional factors, however, shape the particular case of child pornography. First of all, child pornography's clandestine nature requires that its very production be covert. Secondly, because it has a small audience (arising out of its specificity as one sexual perversion among other and, of course, its illegality), child pornography is not amenable to the means of production upon which commercial mass media are based. These two factors bind the history of child pornography to the history of amateur or home-hobbyist equipment.

For example, because risk of discovery (and criminal prosecution) is greatly increased if a child pornographer was to send film to a commercial developing service, child pornography has tended to be produced using home-based developing techniques. For decades this meant that child pornography was restricted to black and white photographs which could be easily processed in amateur darkrooms. Colour photography for the hobbyist lagged many years behind the availability of colour snapshots (eg., Kodachrome film sent to commercial processing centres). Anecdotal evidence from police investigators supports the view that the most widely used photographic format for child pornography in the past half century is the Polaroid camera, first available commercially in the Fifties (for example, the Model 130 in the mid-1950s or the Model 150, circa 1957-60) and mass produced for wide consumer uptake with inexpensive models such as the Polaroid Swinger in the Sixties (eg., Polaroid Swinger, Model 20, circa 1965-1970).

Although consumers used 8mm and Super 8mm for home movies, this was not a favoured medium for producing child pornography given the difficulty of home-based film developing. There were some 8mm films produced on a clandestine basis in Europe and illegally imported into North America. Child pornography in motion picture format only became viably exploited by paedophiles with the introduction of videotape, specifically the videocassette recorder (VCR) in the early Eighties and the hand held video camera in the late Eighties. According to Statistics Canada, only 6.4% of Canadian households owned a VCR in 1983, although the proportion rose very rapidly during the latter half of the Eighties. Interestingly, only 2.8% of Canadian households owned a camcorder in 1988 and the subsequent growth curve has never matched the rapidly expanding consumer penetration of VCRs.

Personal Computers and Peripherals

Although microcomputers had been available for dedicated hobbyists in the early Seventies, fully assembled home computers were first introduced in the spring of 1977:

- Apple introduced the Apple II (6502 CPU, 4 KB RAM, 14 KB ROM, keyboard, 8-slot motherboard, game paddles, graphics/text interface to colour display, and tape drive, and built-in BASIC for US\$1300.
- Commodore Business Machines introduced the PET (6502 CPU, 4 KB RAM, 14 KB ROM, keyboard, display, and tape drive) for US\$600.
- In August 1977, Radio Shack (a division of Tandy Corp.) announced the TRS-80 (Z80 CPU, 4 KB RAM, 4 KB ROM, keyboard, black and white video display, and tape cassette) for US\$600. (www.islandnet.com/~kpolsson/comphist.htm)

By 1980, another stream of development began to gain momentum. In June 1978, Intel had introduced the 4.77-MHz 8086 microprocessor for US\$360. In the fall of 1980, Microsoft and IBM entered negotiations for Microsoft to provide an operating system for IBM's proposed microcomputer. The two companies signed a contract in November and in the next month IBM delivered their first prototype to Bill Gate's crew. The same month, Microsoft bought non-exclusive rights to Seattle Computer Products' QDOS, just renamed 86-DOS (version 0.3). In February 1981, MS-DOS ran for the first time on IBM's prototype microcomputer. By July of 1981, Microsoft had bought all the rights to DOS from Seattle Computer Products. In August 1981, IBM announced the IBM 5150 PC Personal Computer. Inside the box was an Intel 8088 CPU, 64 KB RAM, 40 KB ROM, one 5.25-inch floppy drive (160 KB capacity), and PC-DOS 1.0 (Microsoft's MS-DOS), for about US\$3000. A fully loaded version with colour graphics (IBM had just introduced the CGA graphics card, giving 640 x 200 pixels resolution with 16 colours) cost US\$6000. (www.islandnet.com/~kpolsson/comphist.htm)

The appearance of the personal computer establishes a definite line of demarcation for computer-mediated pornography, but various factors are still required to account for the tendency to go beyond text-based production (i.e., stories – true or fictitious). If we are to explain how computers could be used to generate other pornographic formats beyond their simple use as glorified typewriters, we must address the topic of colour graphics cards. This may be particularly relevant with regard to child pornography (as opposed to pornography in general) if the tendency toward photographs as a medium of choice is the result of an entire array of factors that remain with us:

An important distinction between the seizure of all types of pornography and child pornography lies in the relative numbers of photographs detected. Only 3.1 per cent of the number of all seized items of pornography were photographs, while 40.3 per cent of the number of items of child pornography confiscated were photographs. This finding confirms that individual photographs are a preferred medium in the child pornography market. Since photographs constitute perhaps the easiest medium on small-scale production, their popularity may be indicative of the conditions under which much child

pornography is made (e.g., by individuals sexually abusing children or by the pimps or customers of child prostitutes). (Badgley 1984: 1174)

Although pornographic images are possible in monochrome, a monochrome image is really only two colours – black or white (or in the case of monochrome monitors the choice was between green and amber). Reasonably accurate photographic quality has been predicated on a minimum of 256 colours (8 bits per pixel). A so-called “black-and-white” photograph typically requires 256 shades of black, white and grey (16 shades of black, white and grey yields an image that lacks verisimilitude). Keep in mind that the current range of graphics cards of the 1990s reproduce photographic quality because they are capable of “*True color*” (which, using 32-bits per pixel, provides the ability to reproduce approximately 16 million colours — the number of shades discernible by the human eye).

Almost any capability will be explored, at least temporarily, and there were scattered examples of early computer-mediated pornographic images reproduced with a limited palette for the CGA and later the EGA colour graphics card (which could generate an image in 16 colours at a resolution of 640 x 350 pixels). The first EGA card was introduced in August 1984. The breakthrough, however, came in April 1987 with the Video Graphics Array (VGA) card, which could deliver 256 colours at a resolution of 320 x 200 pixels and 16 colours at 640 x 480 pixels.⁹ In the spring of 1984, the VGA card was only available on IBM’s Model 50 and higher in the PS/2 product line. In the same month, IBM announced the 8514/A Display Adapter, a high-resolution graphics card for the MCA PS/2 line. The 8514/A made possible up to 1024 x 768 pixels in 16 colours at a cost of US\$1290 (for the card alone). With the addition of a US\$270 Memory Expansion Kit, it was possible to go beyond VGA and achieve resolutions of 640 x 480 pixels and 1024 x 768 resolutions in 256 colours. Until high-tech competitors introduced competing chip sets, the price tag for this combination put it beyond the reach of most personal computer owners. The next big technical jump came in October 1990 when IBM introduced the XGA MCA graphics card permitting resolutions of 640x480 and 1024x768 are supported, with up to 65,536 colors in the 640x480 mode (better known as “High color”, a 16-bit per pixel scheme). Also in October 1990, IBM joined the VESA group, making the XGA specification publicly available.

The technical ability to deliver 256-colour images to a monitor was, by itself, insufficient. To open up the potential for any significant distribution of images, it was also essential to have agreed-upon image formats and free or reasonably priced image-decoding software. A large number of image formats existed in the 1980s (including TIFF, BMP, PCX, etc.). The mass distribution of computer image files via computer networks was particularly sensitive to file size as much as the ability to replicate a large colour range. Consequently, two formats which featured data compression have tended to dominate:

- (1) GIF – the first version of the “Graphics Interchange Format”, developed by Compuserve, was freely distributed in 1987; GIF was the most popular format until about 1994; and

⁹ The colours displayed have six bits of depth for each primary colour, giving a palette of 262,144 different colours to select from.

- (2) JPEG – the standard developed by the “Joint Photographic Experts Group” featured a greatly expanded colour palette (24-bits per pixel) and the ability to trade off file size against accuracy (i.e., “lossy compression”). It was more computationally intensive than .GIF but as processing power increased, it began to gain momentum in late 1992 and currently dominates the online world.

The colour graphics card and the graphic file formats were the prerequisites to **reproduce** colour images. The development and mass production of the digital scanner was primarily responsible for initiating the conditions for the **production** of computerized colour images. For computer-mediated pornography this “production” was essentially reproduction (scanning) of images from traditional paper-based photographic media (eg., Polaroid snapshots, magazines, books and video capture). Image scanners were initially fairly expensive (i.e., more than US\$1000). Inexpensive handheld scanners (in the \$200-\$500 price range) capable of 256-shades (first of black and white only and then colour) became available in the mid-1990s. Desktop scanners capable of 24-bit colour did not drop below \$500 until about 1998.

Computer networking is predicated on the widespread use of modems. In January 1984, Apple introduced two new products: a 300-baud modem for US\$300 and a 1200-baud modem for US\$500. In December of 1984, several companies introduced the first 2400-baud modems at US\$800-US\$900. In 1985, U.S. Robotics, one of the market leaders, introduced the Courier 2400 modem. In March of 1987 the company followed with the 9600 bps Courier HST modem for US\$995 (computer bulletin board system operators could purchase these at a discount rate of US\$495). In 1988 U.S. Robotics introduced the Courier Dual Standard modem supporting v.32 and HST (US\$1600) and the v.32 modem (US\$1500).

(www.islandnet.com/~kpolsson/comphist.htm)

In addition to having a sense of when personal computers and peripherals with specific capabilities first became available and in what price range, it is equally important to understand the pattern of personal computer penetration into the consumer market. For example, when there were no modems for personal computers in the marketplace, the distribution of child pornography over computer networks equalled or approached nil.¹⁰ One could postulate that those interested in child pornography are early adopters of high-technology and have the requisite levels of disposable income to acquire such goods. In the absence of supporting data, however, it may be more appropriate to assume that paedophile use of computer networks corresponds to adoption patterns in the population as a whole. Thus, in 1986 in Canada, only 10.3% of households owned a home computer, and modem ownership did not reach 10% until some time between 1994 and 1995. The latter indicator is particularly important because access to computer bulletin board systems or the Internet from the home is predicated on modem ownership. As the 1990s wore on, home computer and modem ownership accelerated. “The modem penetration rates for households with computers increased from 33.7% in 1994 to 41.8% in 1995 and 49.2% in 1996” (from Statistics Canada in Dickinson, 1997: 29). The increased

¹⁰Prior to the introduction of modem-equipped personal computers, isolated cases may exist of computer facilities at university, research, or military sites being used to disseminate child pornography.

proportion within computer-owning households can be accounted for given the increasing tendency for personal computers to come packaged with an internal modem.

	1986	1988	1991	1992	1993	1994	1995	1996	1997
Home Computer	10.3%	12.6%	18.6%	20.0%	23.3%	25.5%	28.8%	31.6%	36.0%
Modem	--	--	--	--	--	8.4%	12.0%	15.5%	21.5%

Table 4: Home computer and modem penetration rates in Canada (Source: Household facilities and Equipment, Statistics Canada)

On the one hand, access to computer-mediated pornography from the home is probably the most common profile and, on the other hand, some forms of access – such as public-access terminals in libraries – are among the least likely avenues. Access to computer-mediated pornography in general and to computer-mediated child pornography in particular has been documented from the workplace and from university campus facilities.

Online Services

Computer bulletin board systems (BBSs) in the microcomputer world have been in existence for more than twenty years. The first computer bulletin board system to run on a microcomputer was developed by Ward Christensen and Randy Suess in February 1978.¹¹ Christensen wrote the software (in 8080 assembly code) and Suess put together the hardware (the computer was based on an S-100 motherboard back in the days when microcomputers came in kits that hobbyists soldered together). CBBS software was sold for the nominal fee of \$50. The original CBBS operated out of Chicago (where, since 1982, Suess continues to run its Unix successor, Chinet).

In June 1984 FidoNet, which was to become the largest network of BBS hobbyists, consisted of two bulletin boards (one in San Francisco and one in Baltimore). By August of 1984, the number of nodes had grown to almost 30 and by September 1984 it had reached over 50. Modifications to the Fido software and a cadre of volunteers solved some of the early routing problems and by February 1985 FidoNet had more than 160 BBSs. By July 1992 there were 15,649 BBSs worldwide (Boardwatch, October 1992, 47-61).

Boardwatch states: “In a survey of six cities performed last year, we determined that on average, 23.7% of the public dialup bulletin boards in the United States were in the International FidoNet and listed in the FidoNet nodelist. With exactly 9500 unique nodes in the United States listed in the July 31, 1992 nodelist, this would strongly indicate a total of 40,034 publicly

¹¹ In the summer of 1977, Ward Christensen wrote MODEM.ASM for the CP/M operating system primarily as a means to exchange computer files between computers. It became one of the most modified programs in computing history. Keith Peterson modified the program and renamed it XMODEM (the name by which the protocol is now known). Various other hacks were introduced such as CRC, multi-file transfer, and so on. Chuck Forsberg wrote MODEM/XMODEM in C and for Unix (this became known as YMODEM). Forsberg also later wrote ZMODEM, a protocol designed to maximize throughput.

operating bulletin board systems in the United States and with 15,549 total FidoNet nodes worldwide – some 65,946 public bulletin boards across the whole pebble.” (Boardwatch, October 1992, 61).

In addition to the independent bulletin boards that emerged in the Eighties, there were also a handful of larger services which offered points of presence across North America and even globally – among these are Prodigy Services Company,¹² America Online (AOL), Genie, and CompuServe.

¹² “Prodigy Services Company, the online service subsidiary/partnership of IBM and Sears, has done an impressive job of developing the two largest communities online. Their online service now boasts over 2.1 million users on 1.2 million paying accounts. And the other community they have formed is probably even larger – those users who were introduced to the online world on Prodigy, and are now online everywhere else BUT Prodigy.

“The Prodigy service began life as an idea in the mid-Eighties under the name Trintex – a partnership between CBS, IBM, and Sears Roebuck and Co. CBS dropped out before introduction and the service was renamed Prodigy.” (Boardwatch, June 1993, 42-46)

C. Computer Bulletin Boards and the Dissemination of Online Pornography

A Short History of Adult BBSs

As the number of bulletin boards began to expand in the early Eighties, specialization began to appear. Some BBSs began to focus their discussion groups and file holdings on specific interests or hobbies – there were bulletin boards exclusively devoted to astronomy or computer games. There also emerged “adult BBSs – computer bulletin boards that offered “adult entertainment” services such as online adult chat facilities, text files of pornographic stories, and pornographic images for download. There is very little documentation regarding the establishment of the first “adult” BBS, although indicators (availability of BBS software, modems, graphics cards and file formats, including GRASP for animation) lead me to believe the mid-Eighties were the most likely time frame. Certainly by the 1986-1988 period, a number of adult BBSs emerged that would dominate the North American online pornography market for the next half-dozen years.

At the peak there were probably not more than 500 adult BBSs in existence at any one time in North America. This service segment had a typical pyramid-shaped distribution: a small number of BBSs at the top of the pyramid had the largest number of subscribers. Most adult BBSs (those in the lower two-thirds of the pyramid) had subscribers in the hundreds. By the early 1990s, a few adult BBSs had subscribers in the low thousands. Founded in February 1991, Amateur Action BBS became one of the most popular boards and had 3,621 subscribers in May 1994 and 10,687 subscribers in May 15, 1995 (Rimm 1995: 1904). The McHenry BBS provides an example of the growth of a successful adult board:

The McHenry BBS began its on-line operation as a dial in BBS in 1985 using a state-of-the-art Tandy Computer with a 20 meg hard drive and all the bells and whistles it had to offer. The original concept was a BBS that would offer scanned adult images to anyone interested in dialing in and viewing them. The scanners available at that time were very expensive but we saw that there was a huge interest in adult entertainment from a home PC so we bit the bullet and purchased a Sharp JX-450 scanner which was capable of great color scans in one pass.

After we started posting the scans for download we discovered that our Tandy couldn't handle the action so we were forced to go buy a real computer to handle the increasing subscription business. We had the clone installed and then were forced by demand to install 2 more so we now had 3 dial in lines going and we couldn't take the time to do maintenance on any of them because they were always busy so we continued adding machines and phone lines until we reached 60 dial in lines with 60 computers and 60 modems. What a mess! Imagine our horror in a thunderstorm (which the Midwest is famous for) just imagine re-booting 60 machines just in time to lose power again. (Source: The McHenry BBS)

The majority of the files on the majority of adult BBSs were much like what could be

legally purchased in adult retail stores – which is not surprising given that much of the material was scanned from magazines rather than originally produced by the BBSs. It is also worth noting that during the 1985-1990 period (and possibly up to three years later) the operators of BBSs were far more likely than the subscribers to own scanners. Consequently, it was the sysops who were largely responsible for the reproduction of digital images from photographs and magazines. Once in digital format, however, subsequent circulation was not as much the exclusive preserve of the BBS sysops.

Playboy's Copyright Infringement Actions

Some of the first legal actions involving computer-mediated pornography were not based on obscenity charges but on cases of copyright infringement. Between 1992 and 1993, three adult BBSs – Event Horizons, Tech Warehouse, and Rusty 'n' Edie's – were brought to court by Playboy Enterprises Inc.

Probably the first case was Event Horizons, one of the largest independent BBSs. In March 1992, Playboy Enterprises Inc. sued Event Horizons for copyright infringement (Rose 1992). The Event Horizons bulletin board system was operated by Jim Maxey. Although I have not been able to determine the date when the BBS first went on-line, a preliminary survey of pornographic images (see Appendix 2) reveals 320x200 pixel GIF files with file dates from 1988 (three files bear a 1988 "Maxipic" copyright – a logo associated with Jim Maxey; two of the files contain the information: "Event Horizons, Data (503) 777-1578. Voice (503) 777-3595). Certainly, Event Horizons was operating in 1988. On the CD-ROM compilation, a much larger number of images bearing either the "Maxipic" logo or the "Event Horizons" information occur on files dated 1989-1990. I have no indication whether these files are original photographs or were scanned from adult magazines.

Lance Rose reports:

Event Horizons is one of the largest BBS' in the country, and well-known as a major center for uploading and downloading graphic images, including pictures of nude women and sexual images. Users are charged for downloading by connect time, so the larger the file and longer it takes to download, the more a user pays for the file. The BBS is said to gross over two million dollars per year, and has served (in the profit-making sense at least) as an ideal and model for others who run their BBS' as a business. Event Horizons makes files available not only online, but also in collections on disks. (Rose 1992)

My recollection is that Jim Maxey and Playboy Enterprises settled out of court (although this clearly needs to be confirmed).

The second legal action undertaken against a BBS by Playboy Enterprises concerned Techs Warehouse BBS in Florida, operated by George Frena. Dating back to at least the summer of 1993 (Frena's affidavit is dated August 4, 1993), the case involved 170 image files which were digital scans of copyrighted photographs owned by Playboy Enterprises Inc. as well as the

issue of trademark infringement. In the December 1993 decision (*Playboy Enterprises Inc. v. George Frena, d/b/a Techs Warehouse BBS Systems and Consulting, and Mark Dyess*, 1993) Frena contended that he did not place the files in question on the BBS. The files had been uploaded by subscribers to the BBS and Frena had been unaware of the image's origin. The court granted Playboy Enterprises motion for partial summary judgement for both copyright and trademark infringement.

The third of the Playboy Enterprise actions was much more complicated. It concerned Rusty 'n' Edie's BBS, operated by Russ (aka Rusty) Hardenburgh and his wife, Edie. The case essentially goes back to November 1992 when an employee of Playboy Enterprises Inc. (PEI) subscribed to the BBS and downloaded files believed to be copyrighted by PEI. On March 11, 1993, PEI filed its original complaint against RNE. The court's judgement of November 25, 1997 provides a helpful summary of circumstances:

Defendant RNE and its President, Russ Hardenburgh, began operating a local BBS out of Boardman, Ohio in the early days (relatively speaking) of this technology. In July of 1988, "Rusty-N-Edie's BBS" became available to owners of home computers. (2nd Hardenburgh Aff. Para. 1.) For a fee, subscribers received access to certain files which were otherwise off limits to the general public, and had the right to download a set number of megabytes of electronic information from these files every week. (Hardenburgh dep. pp. 120-122.) The BBS also provided e-mail services, chat lines, advertisements for goods, computer technical assistance, and a "matchmaker" dating service. (2nd Hardenburgh Aff. Para. 3.)

By January of 1993, the central BBS had grown to 124 computers, with nearly 6000 subscribers. (2nd Hardenburgh Aff. Para. 6.) Approximately 105,000 to 110,000 files were available for downloading, nearly half of which were graphic image files, or "GIFs." (*Id.*) A GIF is created by scanning a photograph to create digital data that can be run through a computer. GIFs from Rusty-N-Edie's BBS could be downloaded by the customer to his or her home computer, and could be viewed only with the assistance of certain specialized software. (*Id.*) Approximately 40,000 of the GIFs available to subscribers at this time, Defendants admit, contained "adult" photographs. (1st Hardenburgh Aff. Para. 6.)

To increase its stockpile of available information, and thereby its attractiveness to new customers, Defendants provided an incentive to encourage subscribers to upload information onto the BBS. Subscribers were given a "credit" for each megabyte of electronic data that they uploaded onto the system. For each credit, the subscriber was entitled to download 1.5 extra megabytes of electronic information, in addition to the megabytes available under the normal terms of subscription. (Hardenburgh dep. p. 157.) According to Defendants, information uploaded onto the BBS went directly to an "upload file" where an RNE employee briefly checked the new files to ascertain whether they were "acceptable," meaning, not pornographic, and not blatantly protected by copyright. (Hardenburgh dep. p. 138-142.) (*Playboy Enterprises, Inc. v. Russ Hardenburgh, Inc.*

Russ Hardenburgh contested PEI's claims for summary judgement. On June 10, 1994, PEI responded to the defendants claims and brought new evidence forward. Apparently in January 30, 1993, the Federal Bureau of Investigation had conducted an unrelated search of the Hardenburgh premises. The FBI had seized computer equipment and made a tape of the BBS contents. PEI withdrew its motion for summary judgement with respect to 79 of the 99 GIFs but provided copyright proof for the 20 remaining images. On September 14, 1994, the Magistrate recommended the court grant PEI's request for a summary judgement regarding copyright infringement but denied the summary judgement regarding the alleged Lanham Act violations. Both the Plaintiff and the Defendant filed objections.

On January 17, 1995, PEI filed its third motion for summary judgement, citing an additional 392 GIFs base on the FBI tapes. On March 1, 1996 the case was transferred to the United States District Court, Northeastern District, Eastern Division. As states in the decision of November 25, 1997, the Plaintiff's motion for summary judgement was granted on direct and contributory copyright infringement. The summary judgement for unfair competition under the Lanham Act was denied.

Marty Rimm's Analysis of "Adult" Computer Bulletin Boards

Marty Rimm's "Marketing Pornography on the Information Superhighway" (1995) was the centre of a storm of critical controversy in the early summer of 1995. Rimm's article is actually comprised of two distinct projects, each having different targets and different methodologies. The first, and less developed of the two, centres on a subset of Usenet newsgroups. The second is largely taken up with a content analysis of descriptions of pornographic images available on commercial adult bulletin boards. There is a cursory attempt to link the two undertakings. Overall, the article contained a number of methodological problems and suffered from a self-aggrandizing style.¹³

At this juncture I shall focus on the adult BBS survey. The starting point is Rimm's subtitle: "*A Survey of 917,410 Images, Descriptions, Short Stories, and Animations Downloaded 8.5 Million Times by Consumers in Over 2000 Cities in Forty Countries, Provinces, and Territories*". For those familiar with the literature, this mouthful appeared as a somewhat gauche example of one-upmanship – an allusion to the famous 1988 Dietz-Sears content analysis (subtitled: "*A Survey of 5132 Books, Magazines, and Films in Four American Cities*"). A few pages into his article, Rimm begins to explain this massive number:

¹³ My review of Rimm's article is based in part on my contribution at the time entitled: "Marketing Outrage: A Preliminary Critique" (July 30, 1995) which I contributed to the efc-talk listserv. That initial review focused on Rimm's Usenet analysis. I provided a detailed critique of the BBS portion of Rimm's analysis in a lecture I delivered in the summer of 1996 in the context of a course (Communication, Technology & Culture, 27-343) that I taught at Carleton University.

... the team obtained descriptive listings from sixty-eight commercial "adult" BBS [sic] containing 450,620 pornographic images, animations, and text files that had been downloaded by consumers 6.4 million times; six "adult" BBS [sic] with approximately 75,000 files for which only partial download information was available; and another twenty-seven "adult" BBS [sic] containing 391,790 files for which no consumer download information was available. (Rimm 1995: 1853)

Consequently the number in the study's subtitle rather being some measure indicative of the "Information Superhighway" (aka the Internet) is entirely derived from adult BBSs. Moreover, this decomposition ($917,410 = 450,620 + 75,000 + 391,790$) must be further whittled down to reveal the actual object of the survey. Once one eliminates the two components that were not part of the reported analysis, one arrives at the next claim (which, to foreshadow, must be whittled down in turn). Referring to the second, and most significant portion of his analysis treating *Pornographic "Adult" Commercial BBSs*, Rimm states:

This portion of the study analyses a total of 450,620 files that are classified into four major categories: (1) PARAPHILIA, (2) PEDO/HEBEPHILIA, (3) HARD-CORE (non-paraphilic), and (4) SOFT-CORE. (Rimm 1995: 1876)

Of course, the attentive reader will have been alerted much earlier to the following caveat:

... this article focuses on the 450,620 files for which complete download information was available. Of these, animations, text files, and images which were either ambiguously described or not described at all, were excluded. A total of 292,114 image descriptions remained and are discussed here. (Rimm 1995: 1853-1854)

Consequently, the focus of the analysis is 292,114 textual descriptions of pornographic images – or about 30% of the figure trumpeted in the subtitle. Almost 300,000 textual descriptions (typically authored by the BBS systems operators to entice subscribers to download the corresponding pornographic images) drawn from 35 U.S. computer bulletin boards¹⁴ (mid-size to large independents), constitutes a significant sample and would have stood up quite nicely without inflation. In the interest of contributing to our objective of determining baselines, it is worth observing that Rimm's BBS survey was apparently based on data from commercial BBSs as of June 1, 1994 (Rimm 1995: 1904, footnote 127). I have reproduced Rimm's primary findings in Table 2. It should be noted that Rimm's methodology and its implementation in a parsing program entailed that the collocation into different categories might exhibit a tendency to inflate the paedo/hebephile category and the paraphilia category.

¹⁴ Rimm explains that he began with an initial list of 500 "adult" boards and supplemented this with another two published lists of 500 "adult" BBSs. The 1,000 BBSs were apparently contacted and about half were determined to be active. The remaining set of 500 boards was further reduced to 68 BBSs by applying various criteria (Rimm 1995: 1877). Finally, the 68 adult BBSs were reduced to 35 boards for which complete download information was available.

	Total Files	Total Downloads
Hard-core	133,180 (45.6 %)	2,102,329 (37.9 %)
Soft-core	75,659 (25.9 %)	760,009 (13.7 %)
Paraphilia	63,232 (21.6 %)	1,821,444 (32.8 %)
Paedo/Hebephilia	20, 043 (6.9 %)	864,333 (15.6 %)

Table 5. Rimm's Total Surveyed "Adult" BBS Files and Downloads by Classification (Rimm 1995: 1891)

Rimm notes that:

The "adult" BBS industry is unevenly distributed among BBS [sic], with five of the thirty-five boards accounting for 81.3% of all downloads. This data, combined with the demographics reported below, indicates that despite the cost of toll calls, leading "adult" BBS serve a national, as opposed to local, market. (Rimm 1995: 1892)

This tendency toward market concentration is particularly evident in the case of the "paedo/hebephilia" category. Near the end of this paper Rimm provides a case study of Amateur Action BBS which at the time had 22,319 images which had been downloaded 1.6 million times (Rimm 1995: 1897). With respect to the thirty-five bulletin boards, Amateur Action appeared in the "top five", being ranked number 3 in terms of number of files available and ranked number one with respect to total number of downloads. Rimm notes that four of the top five BBSs correspond with the overall pattern of file holdings (hard-core was most heavily represented, followed by soft-core, then paraphilic images and finally paedo/hebephilic images). "The exception to this general pattern is Amateur Action BBS, which offers an unusually high proportion of paraphilic and paedophilic imagery. What is not foregrounded by Rimm is the degree of anomaly in the download data. It appears (Rimm 1995: Figure 8 and Figure 9) that Amateur Action had approximately 10,000 paraphilic files (about 15.8% of the total file holdings for all 35 BBSs in this category) and these were downloaded over 800,000 times (more than 44% of the total downloads in this category). Most significantly, Amateur Action had 5214 images in their paedophile portfolio and these were downloaded 717,896 times (Rimm 1995: 1903). The number of images accounts for a substantial 26.01% of the total paedo/hebephile file holdings of all 35 BBSs but, even more noteworthy, Amateur Action *on its own* accounted for 83.1% of the total paedo/hebephile downloads!

Bulletin Boards and Obscenity Trials

<p>To be added: Amateur Action and the Thomas trials</p>

Computer Bulletin Boards and Child Pornography

The 1986 report by the United States Senate Permanent Subcommittee on Investigations provided one of the earliest accounts of the use of computers and BBSs by paedophiles. The Senate report indirectly supports my hypothesis that prior to 1987 computer bulletin boards were not used for the exchange of digitized images of child pornography. The Senate report states:

Messages have appeared on computer bulletin boards offering to buy, sell or trade child pornography, establish correspondence about sexual interests, trade names of “available” children and even propose sexual liaisons. One article in a pedophile newsletter suggested that the speed and anonymity of bulletin boards are especially valuable to pedophiles, “given the fact that many of the positions we take are at or near the borderline of the law.” (United States Senate 1986: 14)

According to police testimony provided to the Subcommittee in 1985 focuses on the use of computer bulletin boards to exchange text-based messages. It is interesting, however, that a number of BBSs were in existence, suggesting early adoption of the technology by paedophiles:

The largest bulletin board accessed by Sergeant Brown [of the Houston Police Department] was called “Lambda” and was based in San Francisco. It charged users \$20 to obtain the code allowing them to leave messages. “Lambda” also had three telephone lines which enabled client to carry on running conversations using their computers. Brown also identified three bulletin boards in Houston – “Free for All,” “Zachary Net” and “Connection” – and one in Alexandria, Virginia, called “Switchboard,” on which participants could exchange information about sexual interest in minors. Many of the systems indicate how many calls have come into the network, and Brown reported that he never saw one with fewer than 20,000 calls.

Nicholas Battaglia of the San Jose, California, Police Department’s vice section told the Subcommittee that as of May, 1985, he had developed four criminal cases on pedophiles based on information obtained through computer bulletin boards. In the Bay Area alone, Battaglia had found nine bulletin boards containing pedophile-related messages.

Battaglia believes electronic messages are replacing more traditional mail correspondence between pedophiles. “There’s really an attitude that these are more safe,” he said. “The ads and messages are more provocative, not secretive. You can’t trace them through false names and you can’t eavesdrop on computer conversations”. He added that the increasing participation of law-enforcement officials in undercover letter-writing has forced many pedophiles “farther underground. You’ll see more use of these bulletin boards and also the insistence that they meet you face-to-face. Letter writing is going out the window.” (United States Senate 1986: 15)

In addition to the findings in our discussion of Rimm above, there is other evidence for the dissemination of child pornography via certain “adult” BBSs, particularly in the 1993-1994 period. In addition, there is clearly evidence that some child pornography was distributed via some “adult” bulletin boards prior to 1993. For example, there is a well-known series of images of what appear to be Japanese teenage girls, the “School” series, that could be regarded as constituting hebephilic material (and there is a reasonable probability that some photographs in the series would be considered child pornography under Canadian law). The images constituting the “School” series originated in magazines produced in Japan. The images were subsequently scanned and the files became widely distributed. The School series has been circulating in GIF format in North America since at least the fall of 1990, as evidenced for example by the “file creation dates” on the FAO1 and FAO2 CD-ROMS (see Appendix Two).¹⁵ On the latter collection (containing 31 of a series that seems to include 59 images), most of the School images had logos from Rusty n Edie’s BBS (20 images) although one has a logo from Nix Pix East. (I do not take this to mean that the “real” origin was necessarily Rusty n Edie’s BBS, simply that this was the source for the CD-ROM compiler.) In various samples collected to study pornographic image activity on Usenet, I also periodically encountered images from the School series. For instance, images in the range School1 to about School40 appeared on Usenet in alt.sex.pictures in 1991. In addition to appearing in a 1993 sample as GIF files, the full set appeared in a 1994 sample having been converted to JPEG format images and posted to alt.binaries.pictures.erotica.orientals.

Most of the law enforcement actions in North America involving child pornography and BBSs appear to occur initially in the 1993-1994 period. In May 1992, following Danish raids, the United States Customs Service became aware that some Americans were downloading child pornography from BAMSE BBS, based in Denmark. After a three day briefing of its officers in February 1993, U.S. Customs launched Operation Long Arm. The multi-state, multi-city investigation led to a large number of convictions. Scott Douglas Lacy of Seattle, Washington was convicted of possession of child pornography (“on or about March 6, 1993”) that he had downloaded from BAMSE BBS. In addition to Lacy, Daniel Zane Mohrbacher, Terry Burton Kimbrough¹⁶, and a number of Americans were identified and brought to trial in an operation in which Danish law enforcement shared the BAMSE BBS subscriber list with American Customs agents.

One of the cases from the 1994 period which has been fairly widely publicized is the Pequena Ponacha BBS set up in Mexico by an American who also operated an adult BBS in the Chicago area. According to a news release (1997-01-24) from the U.S. Attorney for the District of New Jersey:

¹⁵ It is perhaps misleading to refer to “file creation dates” in the DOS world. First, these could be file modification dates or the date of conversion from one format to another. They are certainly not inscribed in stone. The commercial CD-ROM, however, does “freeze” the file data to some extent. Interpreted with caution and accompanied by corroborating evidence these file statistics can prove useful.

¹⁶ See U.S. v. Kimbrough and the later appeal (United States Court of Appeal for the Fifth Circuit).

“The existence of the Pequena Ponacha BBS was discovered in April 1994 by Special Agents of the United States Customs Service in Newark. Four months later U.S. Customs Special Agents arrested Robert Copella in California near the Mexican border. Copella, a Chicago computer consultant, had operated the Pequena Ponacha with the assistance of former prostitute and Chicago resident, Pamela Kneeland. The BBS was located in an apartment in Tijuana, Mexico from spring 1994 to the time of Copella's arrest. Kneeland was later arrested outside of the San Diego Federal Courthouse after she had arrived to attend one of Copella's court appearances.

In February 1995 Copella and Kneeland pleaded guilty in federal court in the District of New Jersey to the transportation of child pornography. Copella is currently serving five-and-a-half years in federal prison. Kneeland, who cooperated with federal authorities, received an 18-month sentence, and has been released from custody.”¹⁷

Also convicted in association with the prosecutions were several residents of New Jersey (including Thomas Yusko, Anthony Hall, and Patrick Seymour) who were subscribers to the Pequena Ponacha BBS and had downloaded child pornography.

Canadian cases involving BBSs and computer-mediated child pornography

In Canada in 1993 there were a number of enforcement actions against BBSs on charges of obscenity (Sansom 1995: 27). Canada's first child pornography case involving bulletin boards also occurred in 1993. Joseph Pecciarich was ultimately convicted of the production of child pornography and the uploading of this material to a bulletin board between August 7, 1993 to September 1993. In March 1995 a search warrant was served on the Hurtubises, a British Columbia couple who operated a BBS.¹⁸ A relatively small number of images containing child pornography was discovered on commercial CD-ROMs which were otherwise of a general pornographic nature.

¹⁷ Source: Archived News Releases/Documents: <http://justice2.usdoj.gov/gopherdata/usao/nj/hall0124.txt>

¹⁸ Regina v. Hurtubise. [1997] B.C.J. No. 40. New Westminster Registry No. X045651/X045652

British Columbia Supreme Court New Westminster, British Columbia.

<http://offshore.efc.ca/pages/law/court/R.v.Hurtubise-appeal.html>

Regina v. Hurtubise. [1996] Surrey Registry. Provincial Court of British Columbia

<http://offshore.efc.ca/pages/law/court/R.v.Hurtubise.html>

D. The Internet and Pornography On-line

The Internet is, on the one hand, a “network of networks” and, on the other hand, a collection of different services (such as email, telnet, Usenet news, Internet Relay Chat, and the World Wide Web). The history of the Internet can be summarized in three stages:

- (1) Military research community: Cold War Beginnings: the emergence of a packet-switching network
- (2) The academic community: The Internet and NSFNET
- (3) Publics and consumers: The commercialization of the network

As argued in Janet Abbate’s “An Archaeology of the ARPANET” (1993), an analysis of the computer network alone is insufficient. In order to understand how “multiple spheres of power intersected and diverse motives converged” one must take into account three different kinds of network: the social network, the funding network, and the physical network.¹⁹ Although Arpanet first went online as a research network in 1968, it remained restricted to a very small community of researchers (specifically those engaged in Defense-funded research). At the time, as Abbate has demonstrated, computing research was concentrated in internally integrated but geographically dispersed communities organized around locally available machines. In the 1980s a number of changes were underway in the computing environment, particularly, the development and increasingly widespread adoption of Local Area Networks (LANs) in the academic and corporate environment. On January 1, 1983, the ARPANET host protocol officially changed from NCP to the TCP/IP protocol suite (although the actual transition was carefully planned by the development community over the preceding several years). In 1984, Arpanet was divided into a research network and a military network.. In 1986 the academic backbone for the Internet, NSFnet was launched by the National Science Foundation. The backbone was upgraded between 1988 and 1992 first by Merit Inc. and then by ANS (Advanced Network & Services Inc, a creation of Merit, IBM and MCI). With the T3-backbone functioning in 1992, two separate “virtual” networks were created to share the physical infrastructure. NSFnet continued to support institutions (such as universities) reliant on government subsidies for their connections. On the other hand, ANS created a subsidiary called ANS CO+RE which would support commercial users of the network. In this regard, 1992 marks the transition toward an Internet used by business and the broader public.

It is important to note that in Canada as late as 1996, only 7.4% of households accessed the Internet from home. Paul Dickinson reports:

In 1996, the 843,300 households using the Internet from home are 47.6 % of households with a modem, 23.4 % of households with a computer, and only 7.4 % of all

¹⁹ The constraints of the current paper prevent me from elaborating further. My recent research on this topic was presented in “The Internet: A Brief History of Technologies and Communities in Transformation” (invited lecturer, September 14, 1999, Carleton University, Ottawa). I also presented aspects of this history in my paper, “Security and Confidence in the Internet Economy: A Federal Policy Perspective”, delivered at the *eSecurity Conference*, Toronto, June 12-13, 2000 (see pages 6-17).

households...

More than half (51.3 %) of the 843,300 households that use the Internet from home are in the top income quartile, and more than three-quarters (76.1 %) are in the top half of the income distribution. Fewer than one in ten (9.1 %) of households that use the Internet from home are in the bottom income quartile. (Dickinson 1997: 36-37)

Internet penetration rates for Canadian households rose from 7.4 % in 1995 to 13.0 % in 1996. The latest data from Statistics Canada's *1st Quarter 1999 – Services Indicators* reports that regular Internet use from the home was actually 16.0 % in 1997 and has increased to 22.6 % in 1998.

Usenet

Usenet can be described as a distributed conferencing system. “Articles” or “messages” are posted to newsgroups by individuals using the appropriate (client) software on their computers. These articles or messages are then relayed from one news server to another. (For more details see Appendix Three.)

What of the relation between Usenet and pornography, particularly in terms of the accessibility of digital images? We can begin with an obvious starting point: when Usenet was created in 1979 newsgroup traffic in pornography was zero. Not only historical conditions, such as the minimal availability of the means of digital reproduction, but also anecdotal accounts, suggest that between 1979 and Usenet's thorough transformation (summer 1986 to spring 1987), pornography on Usenet rose from zero to barely significant (perhaps an order of magnitude below the peaks of 4% of the message base that it was to reach in 1995). With respect to Usenet itself, the introduction of *alt* newsgroups in April 1988 provided a mechanism of distribution with significantly reduced outside control. Moreover, it is perhaps worthwhile reminding ourselves of some of the previously mentioned technological factors in the same time frame – such as the “Graphics Interchange Format” (GIF), developed by Compuserve, was freely distributed in 1987. The widespread acceptance of the GIF format was itself the conjunction of a number of factors: GIF itself as an efficient and simple to implement industry standard; the availability of cheap (often free) GIF viewing software; and, of course, the mass production of corresponding hardware in the form of VGA cards.

If digitized pornographic images appeared on Usenet circa 1987-1988, empirical studies of the phenomenon do not seem to be conducted until the mid-Nineties. In the first portion of “Marketing Pornography on the Information Superhighway” (1995), for example, Rimm presented evidence on Usenet newsgroups and sought to demonstrate:

1. the proportion of pornographic vs. non-pornographic imagery
2. the popularity of pornographic vs. non-pornographic Usenet newsgroups; and
3. the origins of Usenet pornographic imagery.

Each of these research problems appears to have its own data set and each data set was collected in a different time frame (i.e., different months in 1994). Through a combination of methodological errors and overstated claims, Rimm fell short of all three objectives.²⁰

The first research problem was addressed by a sample drawn over seven days (beginning September 21, 1994 and ending September 27, 1994) from a subset of Usenet newsgroups. Beginning with the *alt.binaries...* hierarchy, the study excluded all binaries (sound, programs, etc.) except pictures. The study then expanded the sample of “pornographic” newsgroups outside the *alt.binaries* subset to include such newsgroups as *alt.sex.bestiality* and *alt.sex.fetish.watersports* which were “known by the research team to contain pornography”. From this problematically constructed sample of Usenet newsgroups, Rimm seems to have used a parsing program to categorize the descriptions in the subject headers of 5,033 items (it is not clear whether Rimm was analyzing “images” or “postings” – a single image could be posted as one message or divided up into many dozen messages; it is also not clear whether the sample controlled for duplicates, incomplete postings or re-sends). In order to provide checks on sample validity, random samples of twenty images per day (140 of 5,033 postings/images?) were examined: ten suspected pornographic and ten suspected non-pornographic were downloaded and the images examined “to confirm the legitimacy and content of the images described”. Rimm concludes: “Among the pornographic newsgroups, 4206 image posts were counted, or 83.5% of the total posts” (Rimm 1995: 1867). As Hoffman and Novak argue, this “interpretation is incorrect and the number is grossly inflated... A more accurate interpretation is that of 83.5% of the images posted to the 32 *alt.binaries* newsgroups come from 17 groups that Rimm determined were pornographic” (Hoffman & Novak 1995). A clear indication of the confusion such a figure produces can be seen by citing a subsequent passage in Rimm’s study concerning backbone statistics for NSFnet:

The best data concerning network pornography consumption comes from the Usenet, which itself constitutes only 11.5% of Internet traffic. Of this 11.5%, approximately 3% by message count, but 22% by byte count (e.g., 2.5% of total Internet backbone traffic), is associated with Usenet newsgroups containing pornographic imagery. (Rimm 1995: 1869)

As Hoffman and Novak comment:

Rimm fails to take these traffic percentages to their logical conclusion, which is that ½ of 1% (3% of 11.5%) of the messages on the Internet are associated with newsgroups that contain pornographic imagery. Further, of this half percent, an unknown but even smaller percentage of messages in newsgroups that are “associated with pornographic imagery” actually contain pornographic material. Much of the material that is in these newsgroups is simply text files containing comments by Usenet readers. (Hoffman & Novak 1995)

²⁰ My initial review of Rimm’s article, entitled “Marketing Outrage: A Preliminary Critique”, was a contribution to the *efc-talk* listserv (July 30, 1995). A plethora of critiques by other researchers are available online, for example, the concise dismantling of the “readership/popularity” portion of Rimm’s analysis by Brian Reid (July 6, 1995).

Rimm's analysis of the "popularity" of Usenet newsgroups (based on an August 1994 sample) has problematic methodological errors (see the critique by Brian Reid in addition to the comments by Hoffman & Novak); indeed so many caveats would have to be introduced that any discussion in the current context would be counter-productive. Finally, Rimm's analysis of the "origins" of Usenet pornographic imagery concludes that: "71%, or 1671 of the 2534 pornographic images downloaded from the five Usenet newsgroups studied over a four month period [April-July 1994], originated from "adult" BBS[sic]" (Rimm 1995: 1874). What deserves support is the observation that a substantial proportion of images circulating on a subset of Usenet newsgroups contained markings indicating a connection with the adult BBS world and a possible overlap at some point in both channels of distribution. Now, although the percentage deriving from the sample is unclear on various grounds,²¹ the most relevant difficulty concerns the notion of "origin". All that Rimm could determine from his methodology is that a given image at some point in its history was modified to include a BBS logo or telephone number or some other deleted identifier. Rimm cannot determine whether one of these images actually originated at a particular BBS (in light of the possible practices at the time: either an "original photograph" created by the BBS operator or a subscriber's photograph scanned by the BBS operator). Rimm's methodology is equally unfit to ascertain that an image marked with a BBS name or logo *did not* originate with a BBS. Even if the image has a particular BBS name or logo, the latter could have been overlaid on an image which could have originated:

- (1) from a CD-ROM (either as an original creation or scanned from some traditional media source);
- (2) from another BBS (either with no logo or with the logo replaced);
- (3) from an adult video (frame-grabbing);
- (4) from a national magazine such as *Playboy*, *Penthouse*, *Hustler*, etc.
- (5) from one of the thousands of one-off pornographic magazine titles.

What Rimm has observed is that in 1994, a substantial proportion of the digitized pornographic images uploaded to certain Usenet newsgroups had at some point in their history passed through an adult BBS and been "tagged". This at least is an interesting observation regarding patterns of circulation in the mid-Nineties.

In the same period a more methodologically-sound and more modest content analysis of pornographic images on Usenet was conducted by Mehta and Plaza.²²

World Wide Web

²¹ There is a question, given Rimm's unclear methodological reporting whether the conclusion should actually be 59% (1671/2830) or 71% (1671/2354).

²² It is noteworthy that the paper took three years to go through the peer-review process. The Mehta-Plaza study was one of the poster papers at the *Symposium on Free Speech and Privacy* held at the University of Waterloo in November 1994. The paper subsequently went through a number of revisions to remove unsupported or contentious claims and added statistical evidence on inter-coder reliability to strengthen the content analysis. Mehta and Plaza's study stands in contrast to the Rimm study as a testament to the peer-review process. By submitting their paper to peer-review journals and having the patience to make changes based on the referees' comments, Mehta and Plaza improved their study and demonstrated their integrity as researchers.

The first GUI (Graphical User Interface) WWW browser appears to have been written in 1990 by Tim Berners-Lee for the NeXT computer and was released by CERN in 1991. Much of the initial work on hypertext protocol that underlies the Web was done at CERN in Geneva, Switzerland. During the early experimental phase, a number of browsers for Unix platforms were developed. What was to prove to be a breakthrough came when Marc Andressen and Eric Bina of NCSA (National Center for Super Computing at the University of Illinois) wrote a browser called Mosaic, initially for Unix but soon ported to the Mac and PC. In 1993, Mosaic exploded in popularity among the academic community. As is well known, Mosaic eventually became re-cast as the Netscape browser. If one was to determine the year that the WWW became established on the Internet, a good contender would be 1994 (based on the total volume of traffic on the NFSnet backbone divided according to protocol).²³ The bulk of the Web traffic at that time was flowing amongst the academic community. Recall for example, that in 1994 25.5% of Canadian households had a home computer but only 8.4% owned a modem. Nonetheless, it was arguably the visual nature of the Web that was largely responsible for the rapid adoption of computer networking (between 1994 and 1999) by consumers and the public at large. In 1995, the large on-line service providers (CompuServe, America OnLine, and Prodigy) begin to offer Internet access.

One of the best current estimates of the size of the World Wide Web is highlighted in a recent study by Steve Lawrence and C. Lee Giles: “Accessibility of information on the web” (1999). Conducting the study in February 1999, the authors concluded: “The publicly indexable World-Wide Web now contains 800 million pages, encompassing about 6 terabytes of text data on about 3 million servers” (Lawrence & Giles 1999: 107).²⁴ Of particular interest to the current study, the authors manually classified the first 2,500 randomly found web servers according to a set of categories. Pornography appears on only 1.5% of the servers. The results are presented in Table 6.

Commercial content (eg., company home pages):	83 % of servers
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²³ By the end of 1994 WWW had edged out telnet to become the second most popular service behind ftp-data based on the percentage of packets and bytes distributed across NSFnet. In March 1995, WWW surpassed ftp-data as the service with the greatest number of packets on NSFnet; in April 1995 it also achieved the greatest volume in bytes.

²⁴ The estimate was arrived at as follows: “Testing 3.6 million IP addresses (requests timed out after 30 seconds of inactivity), we found a web server for one in every 269 requests, leading to an estimate of 16.0 million web servers total. For comparison, Netcraft found 4.3 million web servers based on testing of known host names (aliases for the same site were considered as distinct hosts in the Netcraft survey (www.netcraft.com/survey)). The estimate of 16.0 million servers is not particularly useful, because there are many web servers that would not normally be considered part of the publicly indexable web. These include servers with authorization requirements (including firewalls), servers that respond with a default page, those with no content (sites ‘coming soon’, for example), web-hosting companies that present their homepage on many IP addresses, printers, routers, proxies, mail servers, CD-ROM servers, and other hardware that provides web interface. We built a database of regular expressions to identify most of these servers. For the results reported here, we manually classified all servers and removed servers that are not part of the publicly indexable web. Sites that serve the same content on multiple IP addresses were accounted for by considering only one address as part of the publicly accessible web. Our resulting estimate of the number of servers on the publicly accessible web as of February 1999 is 2.8 million” (Lawrence & Giles 1999: 107)

Scientific/educational	6 % of servers
Health	2.8 % of servers
Personal	2.2 % of servers
Societies	1.8 % of servers
Pornography	1.5 % of servers
Community	1.4 % of servers
Government	1.1 % of servers
Religion	0.8 % of servers

Table 6. Distribution of information on the publicly indexable web as of February 1999.

Child Pornography and the Internet

Understanding how paedophiles use the various Internet services requires some model of paedophile behaviour. It is perhaps helpful to consider a spectrum of paedophile behaviour ranging from passive fantasy to active molestation. Research findings have not yet determined whether the practices at the passive end of the spectrum typically escalate into practices at the active end or whether, on the contrary, the ability to achieve satisfaction through passive fantasy is, in the majority of cases sufficient, and inhibits escalation into active molestation. At the passive end of the spectrum one finds the collection of child pornography, typically for fantasy use and masturbation. These practices include reading messages posting to paedophile and hebephile Usenet newsgroups but not posting replies (within the Usenet community at large, the practice of simply downloading and reading but not posting is called “lurking”). The next, more active form of involvement, may still not involve any contact with children or potential molestation but instead involves active participation in online paedophile or hebephile communications. This includes a adopting one of a number of roles within Usenet newsgroups (O’Connell 1999) or engaging in fantasy exchanges on IRC (Internet Relay Chat). One could hypothesize that the latter, more so than Usenet participation, because of the interactive nature of IRC, potentially facilitates the blurring of fantasy and reality and may contribute to a transition from passive fantasy to active molestation. Other practices such as the further distribution to Usenet or IRC groups of *existing* child pornography files probably fall in this portion of the spectrum. At the more active end of the spectrum one finds the production of child pornography but again, a number of gradations are clearly discernible. The textual production of fantasy stories, the production of drawings, the production of new images out of existing images using graphics software (digital collage, morphing, etc.) are practices which do not actually involve children or juveniles directly and thus lie on one side of a very important border. On the other side of this border is the production of child pornography that does involve children and juveniles in its production and this is clearly active molestation. There are also various active paedophile practices conducted through Internet services which may or may not involve the exchange of child pornography. An example highlighted by media concern is “luring”, the contacting of juveniles through IRC or similar services, sometimes with the intention of establishing real-world meetings. Once again, this set of practices tends to fall within the active molestation end of the spectrum.

Usenet Newsgroups

Recently, a series of studies has been conducted by Professor Max Taylor, Rachel O'Connell and other researchers from University College Cork, Ireland (sometimes referred to as the COPINE studies).

Child pornography continues to be posted in large quantities on newsgroups.... Research carried out during the first week of January 1998 suggested there were 40,000 newsgroups, 0.07% of which contained major elements of child erotica and child pornography pictures. These pictures amounted to 6058 in total, two thirds of which depicted child erotica and one third could be described as pornographic. (Department of Justice, Equality and Law Reform (Ireland) 1998: 34)

Describing the database:

In the sample we have of over 50,000 pictures from the Internet, which we have downloaded over the past 2 years, we roughly estimate over 2,000 boys and girls are shown in explicitly sexual pictures, and a similar number in pictures involving erotic naked posing. We estimate that about 85% of the sexually explicit photographs we have and about 20% of the nude erotic posing photographs are over 10-15 years old. This therefore means that in our sample there are some 300 to 350 children who have been photographed within the past 10-15 years whilst subjected to a serious sexual assault, the pictures of which have been made publicly available. In that same time frame, pictures have been distributed of some 1,600-1,800 children who have been photographed whilst posing naked, often in suggestive and provocative fashion. These are rough estimates based on the sample of material we have, but I believe these figures underestimate the numbers of children involved, especially those photographed whilst being sexually assaulted

In our experience, pornographic pictures of new children emerge on Internet newsgroups at the rate of about 1 or 2 children every month; there [sic] appearance, however, is irregular. It is sometimes difficult to know with certainty what countries these children come from. Europe, South America, Australia and the US are the most likely sources, but Japanese, Thai and Filipino locations also occur. The children portrayed in child pornography are typically white, often with Nordic features, although Asiatic children also frequently occur; black children however are rare. Posed naked photographs tend to be either American or West European in origin, but with many Japanese and oriental children also evident. We are currently downloading between 2-4,000 child pornographic pictures/week from newsgroups.

Over the past year, it is our impression that the age of children appearing in new child pornography is reducing. At the moment, there are a number of extremely disturbing new pictures emerging involving children (especially girls) who appear to be under 5 or 6. These pictures are disturbing because of the age of the children involved, and because some have very worrying sadistic qualities to them, and we must fear for the well being of

the children portrayed. Excepting these pictures, the typical age range of all photographs tends to be in the 7-8 to 10-11 range. (Taylor 1999)

social organization of newsgroups

simple downloading – eg., “lurking”; potentially most passive

posting – increasing activity

other roles – socialization into sub-culture

degrees of pseudonymity and anonymity

Internet Relay Chat (IRC):

IRC (Internet Relay Chat) was created by Jarkko Oikarinen of the Department of Information Processing Science at University of Oulu in Finland and the first IRC server went online in August 1988. In 1989, individuals at the University of Denver and Oregon State University establish the first IRC servers outside Scandinavia. In August 1990 there were 38 IRC servers; this climbed rapidly to 117 servers by September 1990. These servers were typically established by volunteers on a non-profit basis.

Once this communication medium began to be more widely deployed, IRC and other chat rooms became a site for certain forms of both legal and illicit sexual communication. As noted in an Irish government study:

All IRC networks continue to have channels devoted to both the exchange of child pornographic pictures, and to 'chat' related to fantasy and alleged sexual assaults on children. On 8 November 1997, a sample of activity on Dalnet showed 31 channels with titles related to child sex, with 281 participants. Channels names can be quite descriptive and ranged from "babysex" with 4 participants to "kinky preteensex" with 37 participants. A sampling of Undernet on that day showed 237 participants on 24 channels, with channel names ranging from "toddlerspanking" to "preteenboysexpics". In addition, there are an unknown number of private channels, and others, which do not indicate the area of interest by an obvious name. Access to these channels is often by invitation, and they are usually password protected. Due to the organised dynamic nature of paedophile activity it is not possible to estimate with accuracy the amount of traffic generated on IRC channels. (Department of Justice, Equality and Law Reform (Ireland) 1998: 34)

An early academic attempt to deal with the social structure within sexually-oriented chat rooms was Michael Lamb's year-long study of the participants in gay chat rooms hosted on and accessed through the America On-Line (AOL) service (Lamb 1998). About the same time, Ian Ferguson was preparing his Master's thesis on IRC, Sacred Realms and Icons of the Damned: The Ethnography of an Internet-Based Child Pornography Ring (1998).

→ Carol Linehan's "Virtual Paedophile Communities" (2000)

World Wide Web

The number of WWW sites involved in child pornography appears to be growing and complex networks of linkages relate sites to each other. Growth seems to be in the commercial area, centered on Japan. Over forty Japanese sites seeking payment for access to child pornography have been identified using search engines looking for appropriate key words. Without payment, sample censored pictures may be accessed on these sites illustrating the material available. On payment, a password is supplied to enable access to other pictures. A total of 12 sites offered videos or magazines for sale by mail order, with payment for 5 through credit cards. Videos were purchasable from one

of these sites using a credit card. While the video would be posted in Japan, the credit card would be charged to a US company. (Department of Justice, Equality and Law Reform (Ireland) 1998: 34-35)

Secret WWW sites exist from which child pornographic pictures can be downloaded. The picture files are encrypted, with passwords, etc. circulated by e-mail. On one Japanese site, the picture files are changed weekly. The pictures include both “erotica” and pornographic pictures. The results of a systematic review of sites revealed 238 that have appeared between 18 June and 8 November 1997 offering access to girl-related child pornography or erotica. Boy-related sites are greater in number. The most sexually explicit sites are in Russia and Japan; however, it should be noted that the situation is very fluid, with established sites changing addresses, and new sites appearing. There is also a growing use of mirror sites that may disguise site of origin. Most of the pornographic photographs available from Japanese WWW sites are censored through the use of ‘masks’ covering the genital area. However, software is readily available which will remove the mask revealing the uncensored photograph. . (Department of Justice, Equality and Law Reform (Ireland) 1998: 35)

Country	Percentage of Sites
Japan	73 %
USA	14 %
United Kingdom	3 %
Hong Kong	2 %
Russia	2 %
Australia	2 %
France	1 %
The Netherlands	1 %
Italy	1 %
Thailand	1 %

Table 7. Percentage of 238 sites of girl-related interest located in ten countries . (Department of Justice, Equality and Law Reform (Ireland) 1998: 35)

E. Law Enforcement Investigations as an Indicator of Child Pornography Online

Canadian Investigations and Convictions

Prior to 1993, both illicit adult pornography and child pornography were covered under the obscenity provisions of the *Criminal Code* (s. 163). Bill C-128, An Act to Amend the *Criminal Code* and the *Customs Tariff* (child pornography and corrupting morals), was proclaimed into force on August 1, 1993. As a result of the adoption of this bill, the *Criminal Code* now contains a definition of child pornography.

The data presented in Tables 8, 9, and 10 below represents approximately 80% of the national federal statute caseload (9 provinces and territories). Table 8 presents the total number of cases for the making, printing, publishing, distributing or selling of obscene material, and the making, printing, publishing, possessing, importing or selling of child pornography. In reviewing the number of cases for these offences over the past several years it can be noted that they occur relatively infrequently. The prevalence of these offences as reflected in crime statistics does not necessarily represent the actual level of these activities in society, but can also result from factors such as the public's willingness to report the incident and police responsiveness to these reports²⁵. However, it is useful to compare the number of these cases with the number of cases for other types of offences. For example, in 1998-99 the adult criminal courts from 9 provinces and territories reported 82,097 crimes against person (842 homicide/attempted homicide and related cases, 4,691 robbery cases, 444 kidnapping/abduction cases, 7,500 sexual assault/abuse cases and 68,620 major/minor assault cases)²⁶.

²⁵ This infrequency may be a result of a low number of actual incidents or may be due to other factors such as the under-reporting of these crimes by victims, issues regarding evidence necessary to prosecute the offences, or police resources required to investigate the incidents.

²⁶ Roberts, J.V. & Grimes, C.G. (2000). Adult Criminal Court Statistics, 1998/99, *Juristat*, Canadian Centre for Justice Statistics, Statistics Canada

Table 8: Cases of Obscenity & Child Pornography²⁷

	1994-95	1995-96	1996-97	1997-98	1998-99
Offences tending to corrupt morals:					
Corrupting Morals CCC 163	72	44	26	25	10
Mailing Obscene Matter CCC 168	4	6	4	4	3
Child Pornography CCC 163.1	0	0	36	58	96

1. The number of charges in which obscenity or child pornography were considered to be the most serious offence were also few, as seen in Table 9. It should be noted that due to cases with multiple charges and the determination of seriousness it is not possible to directly match the charges and cases.

Table 9: Charges of Obscenity & Child Pornography²⁸

	1994-95	1995-96	1996-97	1997-98	1998-99
Offences tending to corrupt morals:					
Corrupting Morals CCC 163	579	1,594 ^a	143	141	43
Mailing Obscene Matter CCC 168	11	17	15	15	5
Child Pornography CCC 163.1	0	0	160	251	307

2. The number of cases reported or charges laid may be one indication of prevalence of a particular type of offending however, it does not indicate the number of cases where a person is found guilty. Table 10 presents the number of charges disposed of by way of guilty verdict for the years 1994-95 through 1998-99 as reported by Statistics Canada. Although, the

²⁷ A case is one or more charges against an accused person or corporation, where the charges are disposed of in the same court on the same date. Charges are linked to a case on the basis of court location, accused identifier and date of last court appearance. The offences listed in each “case-based” table contain offence information on the one offence defined as the most serious in each case. (Source: Adult Criminal Court Survey, Canadian Centre for Justice Statistics, Statistics Canada).

²⁸ A charge is a formal accusation against an accused involving a federal statute. This offence must also have at least one appearance in court and a final disposition. A charge is considered disposed of under any of the following conditions: acquitted, guilty verdict, goes to Superior Court, accused is found unfit to stand trial, the charge is stayed, withdrawn, dismissed, discharged at preliminary hearing or waived in or out of the province or territory. Charge appearance that occur after sentencing are out of the scope of this survey. Three cases account for 1,024 of the 1,594 obscenity charges in 1994-95. (Source: Adult Criminal Court Survey, Canadian Centre for Justice Statistics, Statistics Canada).

number of obscenity, child pornography and hate propaganda offences committed appears to be small, the degree of harm that can be caused by committing any one of these crimes can be significant.

Table 10: Guilty Decisions for Obscenity & Child Pornography²⁹

	1994-95	1995-96	1996-97	1997-98	1998-99
Offences tending to corrupt morals:					
Corrupting Morals CCC 163	24	21	11	18	9
Mailing Obscene Matter CCC 168	8	3	12	6	2
Child Pornography CCC 163.1	0	0	44	48	70

²⁹ Guilty includes guilty of the charged offence, of an included offence, or an attempt of the charged offence, and attempt of an included offence (.Source: Adult Criminal Court Survey, Canadian Centre for Justice Statistics, Statistics Canada.)

In Canada, although there were a few isolated cases of computer-mediated child pornography in 1993, in the 1996-1997 period there was a larger number of investigations resulting in charges being laid. Table 11 summarizes the results.³⁰

Table 11: Computer-mediated child pornography involving the Internet – Canadian cases, 1996-1997³¹

DATE	OFFENDER	DETAILS
January, 1996	Mario Bartolozzi, age 44, Toronto, ON ³²	Stories and images depicting men and young boys engaged in sexual acts. Purportedly first Internet-related sentencing in Canada.
May, 1996	Pierre Paliquin, age 38, Gloucester, ON	Undisclosed number of image files depicting children aged four to 15, engaged in sexual acts with children and adults.
July, 1996	James Bruce Ritchie, age 54, Merrickville, ON ³³	1,350 image files and 761 articles depicting young children engaged in sexual act with other children, adults, and animals. Some of the articles were authored by the offender.
August, 1996	Marko Radjenovich, age 34, Hamilton, ON	40 printouts of photographs depicting children engaged in sex acts.

³⁰ There were a number of other reported cases in the 1996-1997 period that have not been recorded in the table. For example, there is a case of an unnamed youth in Cambridge, Ontario (Frances Barrick. "17-year-old charged over child pornography". *Hamilton Spectator*. August 7, 1997. <http://www.efc.ca/pages/media/spectator.07aug97b.html>) and a 15 year old Flamborough youth in the Hamilton-Wentworth area of Ontario ("Young perv caught in the act". *The McMaster Silhouette*. September 3, 1997. <http://www.efc.ca/media/silhouette.18sep97.html>). In addition, there was an unnamed Civilian employee of the National Defence Research Establishment. Ottawa, Ontario ("National Defence employee charged in porn case". *The Kitchener-Waterloo Record*. December 10, 1997. <http://www.efc.ca/pages/media/kw-record.10dec96.html>).

³¹ The original table (without itemized references) came from Ian Ferguson's "Appendix D: Some high profile Canadian Internet child pornography cases" (Ferguson 1998). I have added additional entries and provided references to newspaper articles where available.

³² Paul King. "False Alarm Leads to cyber-porn" September/October 1997. www.internetnews.ca/archives.../0997_netculture_cyberporn.htm Paul King. "First Internet-related crime case decided". <http://www.torontocomputes.com/computes/tc/oct97/olcrime.html>

³³ Stephanie Rubec and Sarah Green. "Cyberporn charges". *Ottawa Sun*. July 18, 1996. <http://www.efc.ca/pages/media/ottawa-sun.18jul96.html>

October, 1996	Sydney Smith, age 45, Cambridge, ON	453 image files depicting children engaged in sexual acts.
	Trevor Davis (a.k.a. Macphisto), age 22, Kirkland Lake, ON	Member of a child pornography ring entitled “The Orchid Club”. 30,000 images and video clips depicting infants, young children and teenagers engaged in sexual acts, with other children, adults and animals.
November, 1996	Robin William Kiellor, age 44, Almonte, ON ³⁴	Child pornography stories
	Stefan M. Lemdal, 18 years old, Newmarket, ON ³⁵	Possession, production and distribution of child pornography
December, 1996	Dr. Blair Evans, age 46, Gloucester, ON	Civilian employee at Department of National Defense research laboratories. 20,000 child pornography image files in his possession at the time of his arrest.
	Robert Horvat, 19 years old, Cambridge, ON,	more than 3,000 images of child pornography on computer
January, 1997	Stuart Friedman, age 42, Halifax, NS ³⁶	U.S. Jewish cleric. Materials seized included child pornography videos, magazines, photographs, computer files, a book on “street-proofing” children against sexual predators and a video interview with child killer.

³⁴ Susan Sherring & David Rider. “Kiddie porn probe nets ex-Mitel man”. The Ottawa Sun. January 8, 1997.
<http://www.efc.ca/pages/media/ottawa-sun.08jan97.html>

³⁵ Ian Robertson. “Violent kiddie porn seized”. The Toronto Sun. November 27, 1996.
<http://www.efc.ca/media/toronto-sun.27nov96.html>

³⁶ “Halifax, U.S. cops track alleged child-porn ring”. The Halifax Daily. January 8, 1997.
<http://insight.mcmaster.ca/org/efc/...> “Net provider willingly gave police access to file”. The Halifax Daily. January 8, 1997. <http://offshore.efc.ca/pages/media/halifax-daily-news.08jan97b.html>. “Halifax, U.S. cops track alleged

	Heidi Wishniwsky, age 32, Orleans, (Gloucester), ON ³⁷	First Canadian woman charged with possession of child pornography obtained via the Internet.
February, 1997	Allen Hunter, age 33, North York, ON ³⁸	1,000 computer files containing child pornography.
March, 1997	Michael Andrew Gibbon (a.k.a. Natasha), age 28, Bridal Falls, BC	Videos, diaries, computer files and rolls of film depicting sexual intercourse with infants and bestiality.
	Wade Graham Carruthers, age 33, Castle Downs, AB	No details specified.
April, 1997	John Bruce Lockett, age 56, Gloucester, ON	Second employee at Department of National Defense. Child pornography image files discovered at his office workstation.
May, 1997	Donald Glen Richardson, age 49, Saskatoon, SK	4,000 computer files containing child pornography.
	Richard Janes, age 34, Marianne Janes, age 40, and their 15 year old son, Hamilton, ON ³⁹	5,000 pornography images seized, 1,000 of which depicted boys and girls as young as 4 years.
	Computer & Net Player Magazine	Magazines pulled from store shelves when child pornography discovered on CD-ROM insert

child-porn ring". The Halifax Daily News. January 8, 1997. <http://www.efc.ca/pages/media/halifax-daily-news.08jan97c.html>. Paul Schneidereit. "Internet rife with pornography". The Halifax Herald. January 8, 1997. <http://www.efc.ca/pages/media/halifax-herald.08jan97c.html>. Eva Hoare & Barry Dorey. "Seized pornography sadistic smorgasboard". The Halifax Herald. January 8, 1997. <http://www.efc.ca/pages/media/halifax-herald.08jan97b.html>. Eva Hoare & Amy Pugsley Fraser. "Cantor fined for child porn. Arrest shocked synagogue; Teacher flies back to U.S.". The Halifax Herald. January 8, 1997. <http://www.efc.ca/pages/media/halifax-herald.08jan97a.html>.

³⁷ Maria McClintock. "Kid porn charge for woman". The Ottawa Sun. January 24, 1997.

<http://offshore.efc.ca/pages/media/ottawa-sun.24jan97a.html>

³⁸ "Man charged with Internet distribution of child porn". The Hamilton Spectator. February 20, 1997.

http://pedowatch.org/prison_sent086.htm

³⁹ John Mentek. "Hockey boss, wife, teen charged with child porn". Hamilton Spectator. (May 1997)

http://pedowatch.org/prison_sent048.htm

August, 1997	Paul LeRoux, age 57, Vancouver, BC ⁴⁰	Possession of child pornography. One of largest seizures in Vancouver. Former investigator for Canadian Human Rights Commission.
	Steven Elder, age 42, Gloucester, ON	Third employee at Department of National Defense. Computer files and 30 videos containing child pornography in his possession at the time of his arrest.
September, 1997	Patrick Danniels, age 34, Labrador City, NF ⁴¹	Child psychiatrist charged with possession of child pornography.
October, 1997	Daniel Hancock, age 30, Oshawa, ON. Trevor Partridge, age 30, Bowmanville, ON	32,000 images and video clips depicting infants, young children and teenagers engaged in sexual acts with other children, adults and animals.
November, 1997	Maurice Sheresky, age 35, Hamilton, ON ⁴²	Child pornography found when technicians repairing home PC
	Gordon Mattice, age 56, Mississauga, ON	939 videotapes, 305 magazines, 24 eight-millimeter cassettes, 14 super eight reel-to-reel tapes, 70 books and 247 computer disks containing 40,000 images.

⁴⁰ "Local man faces porn charges". The West Ender. April 17, 1997.

http://www.walnet.org/csis/news/vancouver_97/province-970417.html

⁴¹ CBC Radio (St. John's, Newfoundland). September 23, 1997. <http://www.efc.ca/pages/media/cbc.23sep97.html>.

"House arrest for importing child porn". Canadian Press, October 7, 1979. http://pedowatch.org/prison_sent077.htm.

Gary Heebard. "Child pornography conviction may mean more trouble for Labrador psychologist". The Evening Telegram. October 9, 1997. <http://www.efc.ca/pages/media/evening-telegram.09oct97.html>

⁴² Christine Cox. "Judge rules search of computer for porn was legal". The Hamilton Spectator. November 27, 1997. <http://www.efc.ca/pages/media/spectator.27nov97a.html>

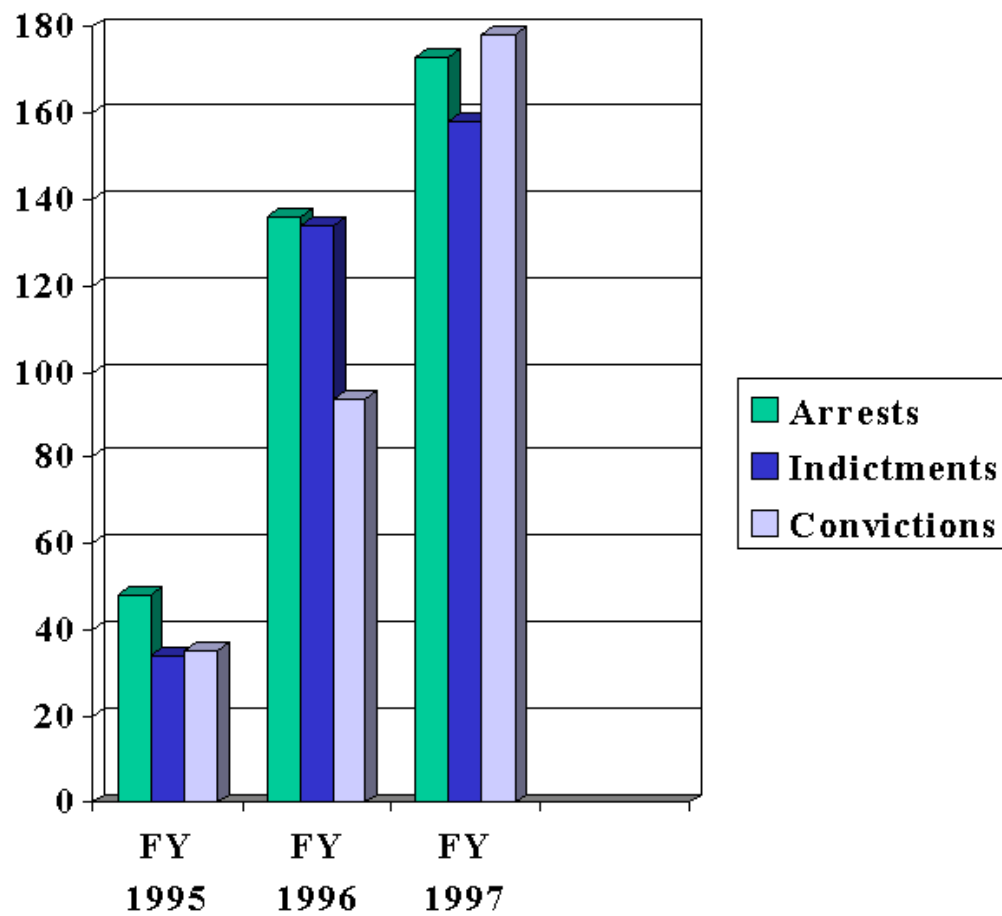
United States Law Enforcement Actions

The 1986 report by the United States Senate Permanent Subcommittee on Investigations states:

On February 6, 1987, congress enacted Public Law 95-225, the Protection of Children Against Sexual Exploitation Act of 1977. This legislation added sections 2251 through 2253 to Title 18 of the United States Code to deal specifically for the first time with the problem of child pornography. Efforts by prosecutors to obtain convictions under these statutes, however, were hampered by a provision in the law that the pornographic material in question had to be produced or distributed for “commercial” purposes in order to warrant prosecution. Since most child pornographers in the United States tend to trade child pornography among themselves rather than sell it, the Department of Justice was forced to rely primarily upon sections 1461-1465, Title 18 of the U.S. Code, the federal obscenity statutes, to prosecute child pornographers.

Congress moved to close this loophole on May 21, 1984, by amending the child pornography statutes to delete the “commerciality” requirement and a requirement that the disseminated material be legally obscene. The amendments, which also added civil and criminal forfeiture provisions to the statutes, now appear as sections 2251-2255, Title 18, U.S. Code. The effect of these amendments on the Department of Justice’s ability to prosecute child pornography cases has been dramatic: from 1978 to April 1984, the Department obtained 64 convictions; between May 1984, and June 1986, at least 164 convictions were obtained. (United States Senate 1986: 5)

US Customs' Actions



Source: U.S. Customs Service

Operation Innocent Images (U.S. FBI)

America Online (AOL)

→ investigation began in 1994. At that time AOL had approximately 500,000 subscribers (Rehman 1997)

→ September 13, 1995: Federal Bureau of Investigations, executed search warrants on the homes of more than 125 America Online subscribers

"Three Men Indicted on Child Pornography Charges" September 22, 1995

www.usdoj.gov/usao/nj/news/1995press/nj88.txt.html

→ three men from New Jersey

Joseph Benante - December 1994

Wallace Holt Chesshir - October 1994

Kenneth McBroom - April 1995

Champaign, Illinois. March 11, 1996. accused: Bruce Black, 29 yrs. old

→ arrested in 1995 on charges of circulating pornography on America Online
xent.ics.uci.edu/ForK-archive/spring96/0261.html

"Man Arrested for Producing Kiddy Porn". June 19, 1997

Ronald Kevin Earheart

→ images traded on the Internet

www.fdle.state.fl.us/press_releases/expired/6-19-97_earheart_arrested.asp

Operation Starburst

→ July 1995

→ international investigation: British police involved

→ paedophile ring that used the Internet to distribute child pornography

→ operation identified 37 men worldwide (Europe, America, South Africa, and the Far East)

→ 9 British men arrested:

In the U.K., the National Criminal Intelligence Service (NCIS) reported:

81. Operation Starburst was the first operation in the UK to target paedophiles who were using the Internet for communications. Information provided by US Customs led to the identification of a researcher at Birmingham University who was using the university computer to store 11,850 images, of which 1,875 were paedophilic pictures.

Investigations by the West Midlands Police Commercial Vice Unit enabled other individuals, who had copied some of these images, to be identified and located. Police forces in Australia, Germany, South Africa, Singapore, the UK and the USA then

cooperated and coordinated arrests to prevent the targets from using the Internet to tip each other off. Evidence seized in the original operation led to follow up investigations and, to date, there have been over 20 prosecutions in the UK and over 100 worldwide.⁴³

Yaman Akdeniz reports:

As a result of Operation Starburst, many cases of simple possession offences were brought to court. *Christopher Sharp* was fined £9000 and was the first person to be prosecuted in a case involving pornography and the Internet in the UK. Sharp admitted two charges of possessing indecent photographs of children under the age of 16 contrary to section 160 of the Criminal Justice Act 1988. In early 1996, *Martin Crumpton*, a former computer consultant, was sentenced to three months' imprisonment in a Birmingham magistrates' court. He also admitted possession of indecent pictures of children and was the first person to be jailed in the UK in an offence concerning pornography and the Internet. (Akdeniz 1997)

Fellows and Arnold: The Birmingham University Case

Trial in 1996:

Fellows and Arnold were charged with a total of 18 charges, under the Protection of Children Act 1978, Obscene Publications Act 1959, and the CJPOA 1994, which widened the definition of "publication" to include computer transmission. West Midlands Police Commercial Vice Squad was contacted by US Customs saying they had identified a site in the UK. Vice Squad officers then swooped on the Department of Metallurgy at Birmingham University and discovered thousands of pictures stored in the computer system of youngsters engaged in obscene acts. The material could be accessed through the Internet across the world. Fellows had built up an extensive library of explicit pornography called 'The Archive,' featuring children as young as three, on a computer at Birmingham University where he worked.

The judge ruled that the computerized images could be legally regarded as photographs, setting a legal precedent that a pornographic computer image was, in law, the same as a photograph. After the ruling of the trial judge, Fellows admitted four charges of possessing indecent photographs of children with a view to distributing them, and one of possessing obscene photographs of adults for publication. Arnold also admitted distributing indecent photographs of children. Fellows was jailed for three years, and Arnold for six months for providing Fellows with up to 30 pornographic pictures of children. (Akdeniz 1997)

Orchid Club (United States, four countries)

→ routine child abuse allegation: began June 1996, California

→ two men part of international paedophile ring, the Orchid Club, broadcast pictures on the Internet (ten year-old girl - Ronald Riva made photographs with a digital camera: chat room

⁴³ National Criminal Intelligence Service. Project Trawler: Crime on the Information Highways.
www.ncis.co.uk/ncis/newpage1.htm

session of April 1, 1996); password-restricted Internet chat room

→ federal indictment: July 1996: "16 defendants indicted for their activities in connection with the production and distribution of child pornography"

→ Timothy Zanol, Minnesota (Sept. 6, 1996)

"Timothy Zanol pleads guilty to child pornography"

(www.usdoj.gov/usao/can/pr/prev96/can60906.1.html)

→ Christopher Saemisch, of Lawrence, Kansas (May 12, 1997)

"Christopher Saemisch, member of 'Orchid Club', pleads guilty to conspiracy to sexually exploit" (www.usdoj.gov/usao/can/pr/can70512.1.html)

→ ninth defendant to plead guilty; later sentenced to 11 years

→ April 30, 1997: Stephen Calhoun of Clinton Mississippi and Stephen Palm of Boston, Massachusetts plead guilty

→ Ronald Riva, of Greenfield, California (May 14, 1997)

"Ronald Riva, member of 'Orchid Club', Internet child pornography ring, pleads guilty" (www.usdoj.gov/usao/can/pr/can70514.1.html); later sentenced to 30 years

→ November 5, 1997: "5 members of the 'Orchid Club', a child pornography ring, were sentenced today" (www.usdoj.gov/usao/can/pr/can71105.1.html)

Corey Soderquist, Bloomfield, Illinois

Joseph Lepore, Greenfield, Minnesota

Stephen Calhoun, Clinton Mississippi

Kurt Schaefer, Arlington Heights, Illinois

Franklin Stephen Palm, Boston, Massachusetts

→ Michael Grumboski of Riverview, Michigan sentenced Nov.4, 1997

→ David Tank, of Cheney Washington, sentenced to 19 years and 7 months

→ Trevor Davis, aka Macphisto; age 22, Kirkland Lake, Ontario, Canada member of Orchid Club <Oct.1996>

→ 3 Britons identified as belonging to club; a search of a man's home (aka "Sheepy") in Hastings, East Sussex, led to discovery of the Wonderland club (see Operation Cathedral)

→ "included Australian Paul Colin Freeland, 33, a computer programmer known by his cyberspace call sign Smirk. He is now an international fugitive."⁴⁴

Operation Cathedral (international)

The largest coordinated police action thus far, Operation Cathedral, was conducted under the auspices of Interpol. The international police action was coordinated by Detective Superintendent John Stewardson of the United Kingdom. The National Criminal Intelligence Service reported:

Operation Cathedral, a law enforcement operation across 15 different countries against the "Wonderland" paedophile ring, resulted in autumn 1998 in the largest ever worldwide seizure of paedophile material. In the 12 European countries alone, over a quarter of a

⁴⁴ Philip Cornford Les Kennedy. "How Interpol netted Web pedophiles". Sydney Morning Herald. September 4, 1998. <http://www.smh.com.au/news/9809/04/pageone/pageone17.html>

million paedophilic images were uncovered from computers, plus hundreds of CDs and thousands of videos and floppy disks containing such material. In the UK, eight suspects have been charged with conspiracy to distribute indecent images of children, one suspect with possession of such images and another (in Scotland) with possession and distribution of obscene material. Another suspect is not being proceeded against, but is already serving a 12 year sentence following conviction of child abuse offences. In other countries, law enforcement agencies have sought to identify over 110 targets and, where identified, have either charged suspects or are continuing their investigations.⁴⁵

"German police hold 5 in new child porn raids" (September 3, 1998)

www.techserver.com/newsroom/ntn/info/090398/info7_25539_noframes.html

"Wonderland world of Internet porn" (September 3, 1998)

online.guardian.co.uk/paper/904843354-3childporn.html

→ at least 12 countries involved in Wonderland club: Internet Relay Chat (IRC)

→ initial discovery through Orchid Club

In the United Kingdom, 14 addresses were raided and 11 men were arrested:

In Britain, homes in London, Manchester, Norwich, Hastings, Oxford, Maidenhead, Dartford, Cheltenham and Milton Keynes were raided. The 11 men have been bailed while inquiries continue and computer experts continue investigations.⁴⁶

In the United States, where the police action is sometimes referred to as "Operation Cheshire Cat", officers served 32 search warrants on homes in 22 states and initially arrested four men: Daniel [or David] Brown of Grand Haven, Michigan; Kenneth Nighbert of Kennebunk/Skowhegan, Maine; Scott Ahlemeier of St. Charles, Missouri; and an unidentified person in New Jersey. By November at least 10 persons had been arrested in the United States and four suspects had committed suicide.

Daniel Brown, age 39, was charged in a federal criminal complaint in Grand Rapids, Michigan:

In Grand Haven, they found videotapes and computer disks in Brown's home, according to an affidavit written by Customs's agent Jack Stowell. U.S. Magistrate Hugh Brenneman ordered Brown held without bond pending a hearing this week...

Brown told Customs agents 10 pornographic images found on a British computer, which

⁴⁵ National Criminal Intelligence Service. Project Trawler: Crime on the Information Highways. www.ncis.co.uk/ncis/newpage1.htm

⁴⁶ Duncan Campbell & Stuart Millar. "Worldwide child porn ring shocks police". The Guardian. <http://online.guardian.co.uk/paper/904843443-3childporn1.html>

were shown to him, were produced when he set up video and computer equipment or allowed others to make such pictures while he was nearby, the affidavit said....

If Brown is convicted of the charge of inducing a minor to engage in sexually explicit conduct, he faces a 20-year maximum prison term.⁴⁷

Richard Espinoza reported:

Scott Ahlemeier of St. Charles [Missouri], who police thought was about 34 years old, was charged Wednesday with transporting or shipping child pornography across state or national borders. He is being held without bond until a detention hearing Tuesday in U.S. District Court in St. Louis.

Investigators think Ahlemeier had more than 70,000 pornographic images, mostly of children, said Tom Fischer of U.S. Customs Service's St. Louis office. Officers also seized 400 to 500 videotapes....

In Kansas, officers seized a computer from a home in south-central Lawrence. A resident was home, but was not arrested. Investigators hope to have a report about everything on the computer in a couple of weeks, said Jim Lewis of the customs office in Kansas City.⁴⁸

There were reports that raids were conducted in Brooklyn (N.Y.), Salt Lake City, and Canoga Park, California (possibly the same as a reference to a Santa Ana, California search):

"Federal agents raided a Canoga Park [California] home last night, taking with them two computers and software believed to be part of the international child porn ring. No one was arrested."⁴⁹

The Denver Post reported:

U.S. Customs have begun the long, complex task of decoding and inventorying the suspected computerized child pornography material found in a raid of a Fort Collins house Tuesday night.

The house at 6375 Compton Road, in the Brittany Knolls subdivision is owned by Richard Bruce Thomes, also known as Thomas, according to search-warrant records unsealed Friday.

⁴⁷ Free Press Staff and News Service. "Internet child porno sting nets 46. Grand Haven man charged in unique 12-country police operation". Detroit Free Press. <http://freep.com/tech/qporn3.htm>

⁴⁸ Richard Espinoza. "Kansas City area raids part of world crackdown on child pornography". Kansas City Star. September 3, 1998.

⁴⁹ Young Broadcasting, Los Angeles. "Crackdown on child pornography". http://www.worldnow.com/affiliateassets/21/contents/top_childporn.htm

Thomes was not home during the raid and no local arrests have been made, authorities said. Thomes could not be reached for comment late Friday.

Customs agents, along with Fort Collins police and a Larimer County sheriff's deputy, went to the house at 8 p.m. Tuesday as part of an international crackdown on child pornography...

Authorities confirmed that computer equipment was seized from the Fort Collins address, but they did not release an inventory...⁵⁰

After noting the trail that led from the Orchid Club investigation to "Sheepy" in Hastings, England, the Denver Post report states:

That led to the "Wonderland" club, which had as many as 180 members in 18 countries. Fourteen British men were identified as part of the group, two of whom it was determined were actively abusing children. They were picked up in June and provided information that led to a code name of "Stacii" in Fort Collins.

Customs agent Albert Whitney claimed in the search warrant affidavit signed by federal Magistrate Judge Richard M. Borchers that "Stacii" was the online name used by Thomes. He further stated that Stacii is the name of Thomes' exwife. (McPhee 1998)

On the afternoon of September 6, one day after the Denver Post ran its article, 36 year-old Richard B. Thomes, killed himself with a single shotgun blast. He was one of four suspects in the United States who committed suicide within one week of the September 1 raids.⁵¹ On September 6, Heinz J. Schaeffers, a microbiologist residing in New Britain, Connecticut, climbed into his bathtub and slit his wrists. He bled to death.

In Plano, Texas, an alleged wOnderland member drove to the local Wal-Mart to buy some hose and duct tape. He taped the hose around the car's exhaust pipe, put the end in his car, and killed himself on Sept. 2. He left a suicide note for his wife, acknowledging his participation in the club, said [Gene] Weinschenck [head of the U.S. Customs CyberSmuggling Center]. His identity remains secret, part of a sealed indictment. In Kennebunk, Maine, retired Air Force pilot Kenneth Nighbert opened a bottle of booze to wash down a fistful of sleeping pills. The 49-year-old man put a plastic bag over his head and died peacefully at home [on September 3]. (Associated Press, Nov. 7, 1998)

Although the largest number of searches occurred in the United States and the United Kingdom, police actions were broadly based. In France there were apparently 4 arrests, in

⁵⁰ Mike McPhee. "Items taken in porn raid studied". Denver Post. September 5, 1998.
<http://www.denverpost.com/news/news0905b.htm>

⁵¹ Associated Press. "Disgrace Follows Child Porn Bust". November 7, 1998.
<http://www.samsloan.com/wonderla.htm>

Roubaix, Strasbourg, Toulouse, and Lille. In Germany, 18 addresses were raided, resulting in 3 arrests). In Italy, searches were conducted on 16 addresses including Rome, Naples, Catanzaro, Turin, Bologna, and Florence. Three addresses were searched in Belgium and 8 addresses in Norway. There was one arrest reported in Sweden. Searches were apparently also conducted in Austria, Canada, Denmark, Denmark, Portugal, the Netherlands, and Finland.

According to some newspaper articles, four individuals were arrested in Australia.⁵² The *Sydney Morning Herald* reported:

To achieve surprise, “Operation Cathedral” was launched around the world at 5am London time, with Australian police striking simultaneously at 2pm in Sydney and noon in Perth.

In Sydney detectives from the Child Protection Enforcement Agency searched two inner-city premises, taking possession of computer disks containing “hundreds of images” at a house in Marrickville.

West Australian police charged a 43-year-old man with possession of child pornography, alleging he downloaded images of a child aged two at his beachside house. He was remanded on bail until Monday. Another suspect is being questioned. Police believe no Australian children were involved – the victims “appear to be from overseas”.⁵³

The report went on to add:

In Australia, a confidential 1997 national Crime Authority report in 1997 identified 5,000 pedophiles nationally, warning they were increasingly using the Internet to exchange information and photographs.

Detective Senior Sergeant Mick Miller, of the West Australian child abuse unit, said US Customs had said Australia was ranked second only to Germany as the biggest recipient of Internet child pornography. (Kennedy 1998)

A number of reports confirm the entry requirement for the Wonderland Club:

To become a member of the Wonderland Club, a candidate had to be approved by at least three other members and needed to show that he or she had access to 10,000 images and was willing to trade them, said [Don] Huyche [program manager for the U.S. Customs Child Pornography Program]. (Masland 1998)

Despite the fact that the Wonderland Club was made up of extreme collectors of child

⁵² Richard Espinoza. “Kansas City area raids part of world crackdown on child pornography”. *Kansas City Star*. September 3, 1998.

⁵³ Philip Cornford Les Kennedy. “How Interpol netted Web pedophiles”. *Sydney Morning Herald*. September 4, 1998. <http://www.smh.com.au/news/9809/04/pageone/pageone17.html>

pornography, the number of images in individual member's collections seem staggering. It is important to recognize, however, that the profile is not entirely unique to computer-mediated child pornography. In the Badgley Report one can find details regarding a Canadian producer of child pornography (McCormick). This case is perhaps just as anomalous as the Wonderland Club. It is one of only two (out of 6203 cases of sexual offences against children) that appeared to involve the production of child pornography with the intent of commercial distribution:

The accused, a 29 year-old male, first came to the attention of the police in July, 1978, when he became involved in a dispute with his landlord and threatened the latter with a firearm. As a result of this altercation, police executed a search warrant against the accused's apartment, and there discovered 21 boxes containing over 10,000 photographs (black and white), negatives and slides, as well as numerous films and books, all depicting male juveniles in sexually suggestive poses or engaged in sex acts. The acts portrayed include fellatio, buggery and bondage. Later investigation revealed that most of the photographs had been produced in the accused's apartment. (Badgley 1988:1181).

Operation Ripcord (New York State)

→ 1997-1998: thus far 11 convictions and an additional 12 arrests
www.oag.state.ny.us/family/childporn/ripcord.htm

Operation Bavaria (international)

"International child porn ring smashed" March 22, 1999
www.zdnet.co.uk/news/1999/11/ns-7451.html

→ 27 year-old student, Leonidas Contoulis, arrested in Edinburgh
→ Germany (15 arrests), United States (5 arrests), Norway (4 arrests), Canada (2 arrests), France (1 arrest), Switzerland (1 arrest), Sweden (1 arrest), and United Kingdom (1 arrest)
→ Internet child pornography ring

Conclusions

There was a brief period lasting just over a decade, with its peak in the Seventies, during which child pornography magazines were commercially distributed through sex shops or by mail order. Even during this peak activity, the trade in child pornography magazines was always minuscule compared to the availability and readership of pornographic magazines as a whole. In addition, the small commercial trade operated in a shrinking window that shifted from one national jurisdiction to the next.

The best milestone to mark the emergence of the online availability of digitized pornographic images is 1987; however, the phenomenon at that time was essentially marginal as only a very small fraction of the North American population owned or had access to the equipment to access digitized images.. At that time personal computers in the marketplace could fulfill the necessary conditions for reproducing colour photographs on monitors (particularly given the availability of VGA cards and the rapid adoption of the GIF format for image files). In addition, modems were available and bulletin boards in general were well known to hobbyists. Moreover, adult BBSs were becoming established in North America at that time. Prior to 1987, computer-mediated pornography probably was available but in very small proportions (at the initial rise of an asymptotic curve that very likely approached zero ten years earlier). After 1987, the availability of BBS online pornography, particularly images, would rise rapidly perhaps reaching a peak sometime around 1994-95 before being largely eclipsed by the Internet (and related services such as Usenet). Bear in mind, however, that in 1987 only 10.3% of Canadian households owned home PCs and only a small fraction (certainly less than 5% and probably less than 3% of Canadian households) owned a modem. In 1987, then, computer-mediated pornography would have been accessed by a fraction of less than 5% of the Canadian population. All empirical indications suggest that what little digitized child pornography may have existed in the late Eighties would have only been accessed by substantially less than 1% of the population (i.e., a subset of those with modem-equipped computers who managed to discover, and had an interest in downloading, the small amount of child pornography that had been digitized).

Some of the first legal actions involving computer-mediated pornography were not based on obscenity charges but on cases of copyright infringement. Between 1992 and 1993, three adult bulletin board systems – Event Horizons, Tech Warehouse, and Rusty ‘n’ Edie’s – were brought to court by Playboy Enterprises Inc.

Hypothetically, some digitized child pornography may have been available in the last third of the Eighties. My own research confirms that digitized images of child pornography were circulating on Usenet and made available on adult BBSs by autumn 1990. Most of the law enforcement actions in North America involving child pornography and BBSs appear to occur initially in the 1993-1994 period. The fact that in the United States in 1993 some collectors incurred long distance toll charges using the fairly slow data transfers of the modems then available to download child pornography from the BAMSE BBS, based in Denmark, suggests that the supply of digitized child pornography was indeed constrained. From data collected in the

1994 period (292,114 textual descriptions of pornographic images drawn from 35 mid- to large-size adult BBSs in the United States), Rimm tabulated as many as 20,034 paedo-hebephile images or 6.9% of his sample (Rimm 1995:1891).⁵⁴ The evidence also indicates there were clearly concentrations of images, or repositories, in certain sites. Amateur Action BBS, which specialized in paraphilia and paedo-hebephilia, accounted for about 26% of the paedo-hebephile holdings in Rimm's adult BBS sample.

<to add: summary of child pornography in relation to Internet >

⁵⁴ On the one hand, this number captures the total collections of most of the major adult BBSs in the United States; on the other hand, there is evidence that a small number of individual collectors had photographic collections of child pornography (paper-based) in the early Eighties in the region of 10,000 images.

Table 12 – Not complete

Milestones	Personal computers, cards and peripherals	Computer Networking	Penetration Rates in Canada
1977			
Spring	Apple II		
August	Commodore PET TRS-80		
1978		first microcomputer BBS (CBBS) goes online	
February			
1979		Usenet created	
1981			
August	IBM 5150 Personal Computer		
1984			
January	Apple: 300-baud modem (US\$300) and 1200-baud modem (US\$500)		
June		FidoNet: first 2 BBSs	
August	EGA color graphics card (16 colors)		
December	several companies introduce 2400-baud modems (US\$800-US\$900)		
1985			
February		FidoNet exceeds 160 BBSs	
1986			10.3% of Canadian households own home computers

1987	March	U.S. Robotics Courier HST (US\$995/\$495 for BBS sysops)		
	April	VGA color graphics card (256 colors) CompuServe develops GIF for digital image files; freely distributed		
1988	April	U.S. Robotics Courier Dual Standard HST/v.32 (US\$1600)	.alt hierarchy of newsgroups is created First IRC server goes online	12.6 % of Canadian households own home computers

Appendix One: Pornography in the Age of Mechanical Reproduction

Sexually explicit material can be found in many cultures from virtually the dawn of humanity's production of artefacts. How sexually explicit material is used within a society, and by whom, varies through history. Pornography may have existed in antiquity (I find the conditional tense preferable because one would have to demonstrate that there was a genre in ancient Greece or ancient Rome that was comparable in meaningful ways to our understanding of "pornography").⁵⁵ This apparent challenge to common sense is not particularly new and has been rehearsed so many times by scholars of my generation since at least Michel Foucault's The History of Sexuality – Volume 1: An Introduction (1976, trans. 1978) as to become almost the academic orthodoxy. On the face of it, there were certainly sexually explicit images (the famous frescoes of Pompeii for instance, excavated in the eighteenth and nineteenth centuries); however, the size of the audience and how the audience used these cultural products is far from obvious and requires analysis rather than bald presumption. For our purposes, it is important to recognize that within the last two thousand years of history, it was not until the 1500s that what we might call "pornography" begins, and it gets off to a rather slow start indeed.⁵⁶

It is worth bearing in mind that "pornography", as a word, did not exist in the English language in the eighteenth century (it does not appear, for example, in Samuel Johnson's Dictionary of 1755). The renowned Oxford English Dictionary, which took fifty years before its first edition was completed, reached the letter "P" in 1909. Its first citation of "pornography" comes from a medical dictionary of 1857: "a description of prostitutes or prostitution, as a matter of public hygiene" – a usage current in the late nineteenth century but no longer familiar to us. The first appearance of the word "pornography" in English is not much earlier and may have been an 1850 translation of C.O. Müller's Handbuch der Archäologie der Kunst.⁵⁷

The availability of pornography (how much and at what cost) has been significantly determined by the means of production: the printing press, etching techniques, the still camera, the motion picture camera, videotape, VCRs, camcorders, scanners and digital cameras. In addition to the means of production and reproduction, the availability of pornography is also dependent on the means of distribution (indeed, changes in transportation): in shipping, the introduction of railways to move goods (such as books and magazines); the invention of the automobile and its extension into the trucking industry; the emergence of national postal systems; the introduction of broadcast and satellite capability; and the proliferation of computer networks.

Finally, changes in the opportunity for consumption – the spread of literacy in the

⁵⁵ These are merely convenient markers – other sources could be considered. See, for example, Lise Manniche's Sexual Life In Ancient Egypt (London: Kegan Paul International, 1987/1997).

⁵⁶ Hunt, Lynn (Ed.). The Invention of Pornography: Obscenity and the Origins of Modernity, 1500-1800 New York: Zone Books, 1993.

⁵⁷ Walter Kendrick, upon whom I rely in this paragraph, writes: "Late in the volume, Müller briefly alluded to "the great number of obscene representations ... to which also mythology gave frequent occasion"; he dubbed the producers of such representations "pornographers" (*Pornographen*). The source of Müller's coinage was a unique instance of the word *pornographoi* ("whore-painters") tucked away deep in the *Deipnosophistai* ("Learned Banquet") by the second-century compiler Athenaeus." (Kendrick 1988: 11)

nineteenth century expanded the potential audience for text-based pornography; changes in the amount of leisure time available through shortenings of the work day and the work week; changes in the proportion of disposable income (enabling the purchase of pornographic products or the means of production/distribution/consumption), and falling prices in the previously mentioned factors such as production and reproduction to enable cheap (or even almost free) pornographic commodities.

One might, with some justification, contend that “child pornography” is a distinctively modern phenomenon. Some would say both components of the term point to its emergence within the last couple of centuries. Looking at the components of the phrase in turn: (a) “pornography” is arguably a product of modernity, as suggested above. More contentiously, (b) the adjectival qualifier is predicated less on some relatively immutable concept of the biological maturation of the species and more on a certain societal conception of the child as a being endowed with rights. That is, not only must one take into account certain physical determinants such as the development of primary and secondary sexual characteristics in human biology but one must also recognize that in different historical circumstances and in different societies adolescents – indeed boys and girls – engage in sexual activities within their peer group and with persons of older age groups. Some of these activities may be socially or legally sanctioned or prohibited; indeed, in the West, as a construct of ethical-judicial discourse, the “child” presumably post-dates the achievement of “universal suffrage” by women. Historical relativism, like the contemporary penchant for ethnography, is an unsettling discipline.

Publishing

Although the point may be self-evident, pornography (as we now use the word) is a form of expression that requires some form of media for its transmission: drawing, painting, printed books, photographs, motion picture film, videotape, or computer-readable registration. What follows from this is that the dissemination of pornography tracks the evolution of the media, particularly those forms of media that enable mechanical reproduction (using Benjamin’s term in the broadest sense). Drawings, paintings and sculpture in themselves, though subsumable (in particular cases) by the legal category of obscenity, are not comfortable vehicles for pornography precisely because they are not mechanically reproducible. The woodcut followed by the etching, as graphic forms designed for mass reproduction (initially in runs numbering in the hundreds or low thousands) began to be used for what twentieth century viewers might call pornography in the seventeenth and eighteenth centuries (see the three volume catalogue, *Ars Erotica*, for a comprehensive survey of eighteenth century etchings).⁵⁸ Given the cost of etching, sexually explicit depictions had an audience that was very small and predominantly wealthy.

The same is true for pornographic writing. Consider the shift in pornography that seems to have occurred in the decade of the 1740s. Although John Cleland’s *Memoirs of a Woman of*

⁵⁸ Brunn, Ludwig von. *Ars Erotica. Die erotische Buchillustration im Frankreich des 18 Jahrhunderts*. Bodo Harenberg, 1983/1989. A reasonable subset for the non-specialist is made more accessible in Gilles Neret’s 750-page *Erotica Universalis*. (Köln: Benedikt Taschen, 1994).

Pleasure (originally published 1748-49) is most familiar to English readers, Lynn Hunt draws attention to a broader trend:

... in the 1740s, pornographic writing took off with the rapid-fire publication of a series of new and influential works: *Histoire de Dom Bougre, portier de Chartreux* (1741); *Le Sopha* by Crébillon fils (published 1742, written 1737); *Les Bijoux indiscrets* by Diderot (1748); *Thérèse philosophe* (1748); and Cleland's *Fanny Hill* (1748-1749), to name only the best-known works. These classics of the genre appeared in a very short period of time, all of them now utilizing the extended novel form rather than the previous Aretinian model of a dialogue between two women. Did pornographers, as some have suggested, have to await the development of the novel in its eighteenth-century form -- Richardson's *Pamela* was published in 1740 -- before they could advance their own prose efforts? And if so, how was the new novelistic form of writing so quickly assimilated into the pornographic tradition? (Hunt 1993: 31-32)

Although answering Hunt's queries is enticing, for our present purposes it is prudent to sidestep genealogy and fall back on the pedantic observation that the two obvious factors to gauge the audience for pornography in the eighteenth and nineteenth centuries are cost (linked to incomes) and literacy (the growth of the reading public). For anyone intent on understanding the breadth of early modern published pornography, the bibliographies of Pisanus Fraxi (printed 1877, 1879 and 1885) provide an indispensable starting point for surveying eighteenth and nineteenth printed works.⁵⁹

Comics

Primarily produced in the decades from the Thirties to the Fifties, *Tijuana Bibles* "were clandestinely produced and distributed small booklets that chronicled the explicit sexual adventures of America's most beloved comic strip characters, celebrities, and folk heroes. The standard format consisted of eight poorly printed 4"-wide by 3"-high black (or blue) and white pages with one panel per page and covers of a heavier card stock" (Art Spiegelman in Adelman, 1997, pg. 6). There were approximately 700-1000 titles produced in the course of three decades, most of them with fairly small print runs. Palmer has undertaken a content analysis of the *Tijuana Bibles*.⁶⁰

Photography

The Kodak camera, one of the first targeting a consumer market, was made available in

⁵⁹ Pisanus Fraxi. *Index Librorum Prohibitorum*. (Original, London: Privately Printed, 1877); *Centuria Librorum Absconditorum*. (Original, London: Privately Printed, 1879); *Catena Librorum Tacendorum*. (Original, London: Privately Printed, 1885). Facsimile Editions, London: Charles Skilton Ltd., 1960. Each limited to 395 Copies.

⁶⁰ Palmer, C. E. "Pornographic comics: A content analysis". *The Journal of Sex Research*, Vol. 15, 1979, 285-298.

Minneapolis in 1888. Pornographic photographs existed almost from the beginning of photography, either as pastiches of famous classical paintings of nudes or as portraits of prostitutes. A nether world of pornography, however, can be discerned. A brutal example of the relationship between sexual assault and photography can be found in the photographs of naked Chinese women taken by Japanese soldiers and kept as wartime mementoes during the occupation of Nanking in 1937.⁶¹

It was not until 1941 that Eastman Kodak introduced Kodacolor negative film and the first of the company's color films processable by the amateur photographer was Kodak Ektachrome in 1946. Kodachrome II colour film was introduced in 1961.

Polaroid introduced the first instant colour film in 1963. One-step instant photography did not emerge until 1972 with Polaroid's SX-70 camera.

Digital cameras became available to photojournalists and other professionals in the latter half of the 1980s. Eastman Kodak, for example, introduced their 1.4-megapixel CCD for digital cameras in 1987. Professional studio digital camera are typically in the US\$22,000-US\$36,000 price range (www.charweb.org/digital/Home.html). The first professional grade digital camera to bear the Nikon trade-name was the Nikon E2 Digital SLR camera introduced in 1996. The current high-end digital cameras, such as Kodak's DCS-560 can capture 6 million pixels at 16.7 million colours per pixel.

The consumer range of digital cameras (i.e., those costing less than \$1,000) was inaugurated in 1994 when Kodak released the DC-40 and the Apple QuickTake 100. These first entrants were quickly followed by Chinon, Canon, LogiTech Epson, and Casio.

Motion Pictures

In order to understand the transformations of motion pictures in its service as a pornographic medium, it is important to distinguish between theatrically released films on the one hand and stag films on the other. Stag films did not find exhibition in theatres but were distributed through private hands or private parties. Early stag films depicting explicit sexual activity include *Am Abend* (Germany, circa 1910), *El Satario* (Argentina, circa 1907-1912), and

⁶¹ The Japanese invaded China prior World War Two's eruption of European hostilities (i.e., in about the same period as Italy's expansionist attack on Ethiopia). The Japanese occupation of the city of Nanking (December 1937 to March 1938) is one of World War Two's largely forgotten atrocities (the West tends to focus on the Nazi death camps). During the four month occupation, approximately 369,000 Chinese were killed and 80,000 Chinese women were raped. A large number of pornographic photographs of rape, murder, and enforced sexual posing were taken by some of the Japanese troops. These and other disturbing photographs taken in 1937 are collected in: Shi Young & James Yin. *The Rape of Nanking. An Undeniable History in Photographs*. Foreword by Desmond Tutu. Chicago: Innovative Publishing Group, Second Edition, 1997.

A Free Ride (aka A Grass Sandwich; America, circa 1915-1919).

As I summarized in Desire in the Margins:⁶²

There is ample evidence that brief instances of nudity had persisted in exploitation films throughout the first half of the twentieth century. As I have documented for the American context, it was not until the late 1950s, however (due to a variety of factors including the disruption of the oligopolistic stranglehold of the Hollywood studio system, the liberalisation of obscenity standards following World War Two, and the exhaustion of certain narratological formations within exploitation cinema), that one finds the institutionalization of a cinematic genre that was both (a) devoted to sexploitation and (b) derived its revenues from exhibition in urban theatres and drive-ins (thereby distinguishing it from the even more marginal economic market captured by the stag film through its “non-theatrical” circuit of distribution). (Sansom 1997: 131)

Following the initial legal breakthrough of Walter Bibo’s 1957 victory permitting the distribution of The Garden of Eden (produced 1954) and Russ Meyer’s financial success with The Immoral Mr. Teas (1959), American theatrical films in general, and sexploitation films in particular, became increasingly explicit throughout the Sixties. This trend achieved its breakthrough with Deep Throat (released summer of 1972) which marked the emergence of the hardcore pornographic film as a public commodity legal in many U.S. urban markets.

Videotape

The videotape recorder (VTR) was invented as a device for professional television studios by Ampex in 1956.⁶³ The first consumer VTR was introduced by Sony in 1965: the CV-2000 used half-inch reel-to-reel tape.⁶⁴ The first videocassette recorder (VCR), to reach the market was the Sony U-matic in 1971. Perhaps the two video formats most remembered today are Beta and VHS which entered into a fierce competitive battle for market dominance in the second half of the Seventies. First out the gate was the Sony Betamax, a large floor model, which was initially released in Japan in April 1975 and was introduced into the American market in the fall of 1975. The more compact Betamax deck reached the market in February 1976. JVC, who spearheaded the development of VHS brought out the original VHS-format VCR in January 1976: the VX-2000 was the first VCR that had a 2-hour capability. By the Eighties it became clear that VHS had won the video wars.

The penetration of rates in Canada for video cassette recorders are presented in Table 13. As can

⁶² Gareth Sansom. Desire in the Margins: A Genealogy of Independent Horror and Exploitation Films. McGill University. Doctoral Dissertation (April 1997 Draft, approx. 700 pages).

⁶³ In some respects the roots of videotape can be found in audiotape. Ampex introduced an audiotape recorder in April 1948. The technology had been discovered in 1936 in Germany and first developed by *Allgemeine Elektrizitäts Gesellschaft*. In the Second World War the Allies learned of the technology as they liberated Europe.

⁶⁴ Sony had been involved in the consumer electronics market for about a decade. Earlier, in 1957, Sony had introduced the world’s first compact transistor radio, the TR-63.

be seen, the most rapid growth occurred in the five year period between 1983 and 1988.

	1983	1988	1991	1992	1993
Total % of households owning at least one VCR	6.4 %	52.0 %	68.6 %	73.8 %	77.3 %
More than one VCR (included in above)	--	--	7.5 %	9.8 %	12.9 %

Table 13: Videocassette Recorder (VCR) penetration rates in Canada (Source: Household facilities and Equipment, Statistics Canada)

By the late Seventies and early Eighties, pornography became available on videocassettes and the bulk of the adult film industry soon derived the majority of its revenue from videocassette sales rather than theatrical distribution and exhibition.

Appendix Two: Using Adult CD-ROMs for Historical Research

In some respects digital files on computer bulletin boards or Usenet newsgroups are ephemeral. What we know about them at any one time is largely dependent on two main sets of circumstances: (1) whether researchers conducting empirical studies have collected adequate samples and (2) whether law enforcement agencies pursuing investigations or prosecutions have collected samples. There is one additional source I would briefly like to explore here and that is provided by certain (but certainly not all) collections of material on CD-ROM.

One example I have begun to analyze was a CD-ROM set sold primarily for BBS operators through paid advertisements in Boardwatch magazine. The series under study was available as two different collections *FAO Gold 1-3* and *FAO 1-3*. As the names indicate, each of these “For Adults Only” sets contained 3 CD-ROMS (sold at a discount for the complete package of six CD-ROMs). The package is copyright 1993, Profit Publishing.

Directory Title	Resolution 320 x 200	Resolution 640 x 480	Resolution 800 x 600	Resolution 1024 x 768	Resolution 1280 x 1024
G-rated Images	6	258	14	52	16
R-rated Images	105	425	81	11	7
X-Rated Images	318	701	90	302	4
Bi/Couple Images	33	141	19	5	0
Oriental Images	38	152	16	122	4
Studs 4 Ladies	151	186	30	8	3
Gay Female Images	39	117	36	4	0
Gay Male Images	179	250	38	9	3
Bondage Images	74	106	11	2	3
Other Images	23	70	9	2	4
Sub-total by resolution	966	2406	344	517	44

Table 14: Total Number of Images divided as per the Directory Names in *FAO3* CD-ROM

For the purpose of obtaining some sort of snapshot of the adult BBS scene circa 1988-1992, the *FAO 1-3* disks are the most useful. The *FAO Gold* series may have been designed to appeal more to collectors of pornography because none of the images contained on these CD-ROMs have BBS logos obscuring portions of the images (those that in some cases may have been there have simply been excised using a paint program or photo software). From the standpoint of historical analysis, however, the regular *FAO* series is much more relevant because the vast majority of the images contain BBS logos.

FAO 3 is representative of the CD-ROMS and its image contents are summarized in Table 8. The categories used in Tables 14 and 15 are the names provided on the CD-ROM. All images were Graphic Interchange Format (GIF), giving another clear historical marker, and each category was further sub-divided on the CD-ROM into images of different resolutions. Of the 4277 images, more than half (2406 images) had a resolution of 640x480 pixels. Table 9 shows the percentage of images in each of the categories into which the CD-ROM was divided. The category with the largest number of images was the generically named “X-Rated Images” with about 33% of the total. The vast majority of the images in the more specialized categories (eg., Bi/Couple Images, Oriental Images, Studs 4 Ladies, Gay Female Images, Gay Male Images, Bondage Images, Other Images) were either R-Rated or X-Rated images rather than G-Rated.

	Number of Images	Percentage of Total
G-Rated Images	346	8.09
R-Rated Images	629	14.71
X-Rated Images	1415	33.08
Bi/Couple Images	198	4.63
Oriental Images	332	7.76
Studs 4 Ladies	378	8.84
Gay Female Images	196	4.58
Gay Male Images	479	11.20
Bondage Images	196	4.58
Other Images	108	2.52
Totals	4277	99.99

Table 15: Total Number of Images divided according to the Listing of Directory Names in FAO3 CD-ROM

Appendix Three: A Capsule History of Usenet

The history of Usenet involves the interaction between technological innovation and the formation of communities.

Usenet originally started as a distributed conferencing system called the Unix User Network in 1979. The system implemented UUCP⁶⁵ or Unix-to-Unix Copy Protocol to transmit news and messages.

The “Great Renaming” was undertaken between July 1986 and March 1987. This resulted in the creation of the current hierarchy of newsgroups: comp, misc, news, rec, sci, soc, and talk. Although the procedure for voting about newsgroup creation had existed prior to the “Great Renaming”, voting was not adopted as a practice until 1987.

On April 3, 1988, a new hierarchy of newsgroups emerged, the alt newsgroups, beginning with alt.sex, alt.drugs, and alt.rock-n-roll. It was some time after this that the first newsgroups dedicated to child pornography emerged on Usenet.

At a technological level, Usenet began with UUCP but evolved to include NNTP. For many years a portion of Usenet continued to employ UUCP but an increasing amount of the traffic, particularly over the backbones, was transferred using NNTP.

Individuals use their newsreaders (i.e., client software) to download the messages to be read (or not) at their leisure. Since the “Great Renaming”, Usenet consists of “newsgroups” with names that are based on a hierarchical classification scheme.

Newsgroup creation – voting versus alt creation

Some newsgroups are structured so that every message that is posted potentially becomes available to any reader. Some newsgroups, however, are “moderated”, meaning that messages are sent to a server where the moderator (acting as an editor) reviews the messages and decides if they are to be posted on the newsgroup for everyone’s view or deleted.

Footnote. Even at this late date it is perhaps worth reiterating the decentralized nature of Usenet – in some respects it is a medium like newspapers (providing this is taken to include community and high school papers in addition to the multinational chains), magazines, or books (including self-published drivel and the vanity press). As one of the standard FAQs states:

1. Usenet is not an organization.
No person or group has authority over Usenet as a whole. No one controls who gets a news feed, which articles are propagated where, who can post articles, or anything else.

⁶⁵ Unix-to-Unix Copy Protocol (UUCP) was created in 1976 by Mike Lesk at AT&T Bell Labs. Unix version 7 (released in 1977) contained an improved version developed by Lesk, David Notiwitz, and Gregg Chesson.

There is no 'Usenet Incorporated', nor is there a 'Usenet User's Group'. You're on your own....

Control

Every administrator controls his own site. No one has any real control over any site but his own.

The administrator gets her power from the owner of the system she administers. As long as her job performance pleases the owner, she can do whatever she pleases, up to and including cutting off Usenet entirely. That's the breaks.

Sites are not entirely without influence on their neighbours, however. There is a vague notion of 'upstream' and 'downstream' related to the direction of high-volume news flows. To the extent that 'upstream' sites decide what traffic they will carry for their 'downstream' neighbours, those 'upstream' sites have some influence on their neighbours' participation in Usenet. But such influence is usually easy to circumvent; and heavy-handed manipulation typically results in a backlash of resentment. ("What is Usenet?" Edited until 5/93 by Gene Spafford, last change 16 Jan. 1998 by Mark Moraes. [usenet/what-is/part1](#))

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